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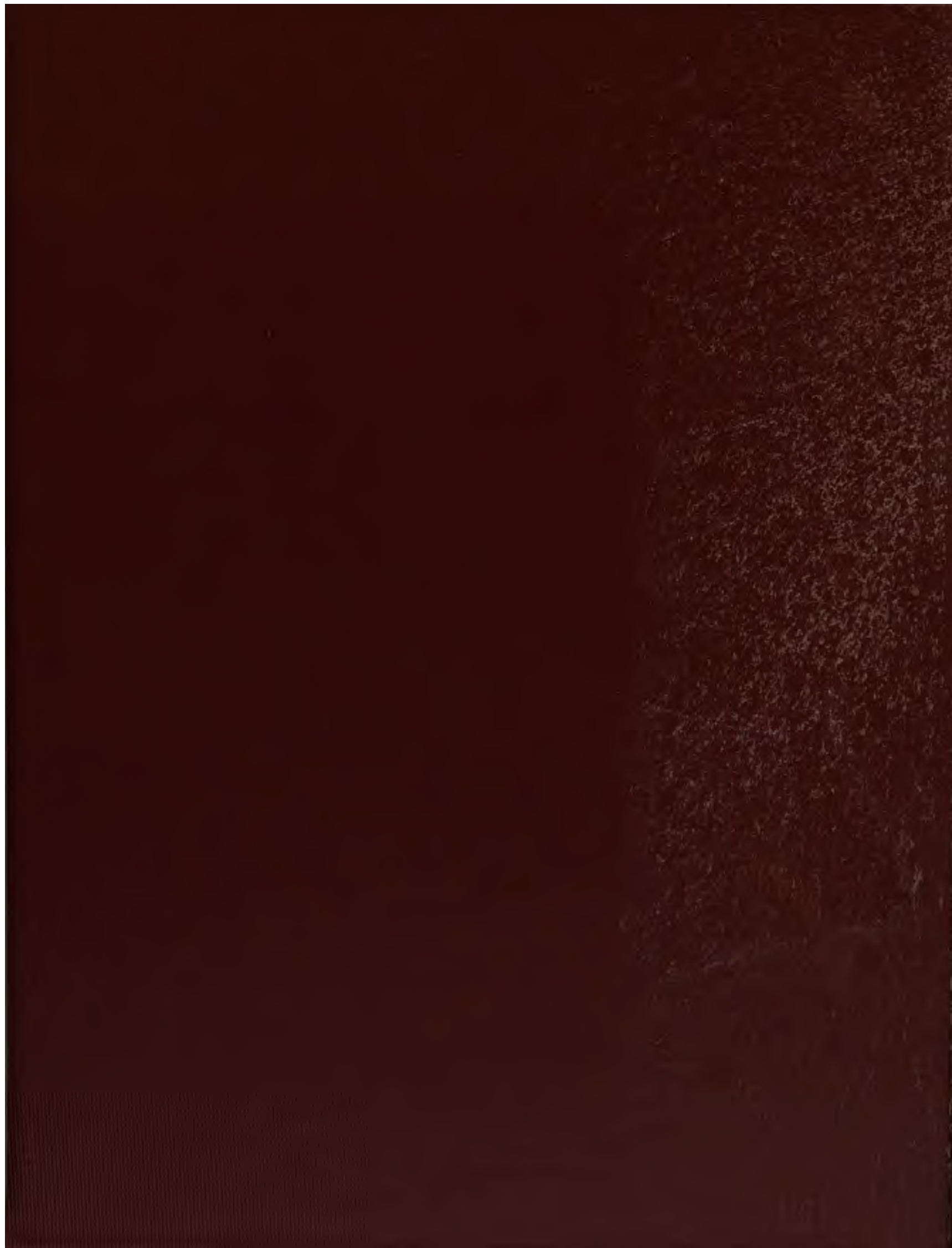
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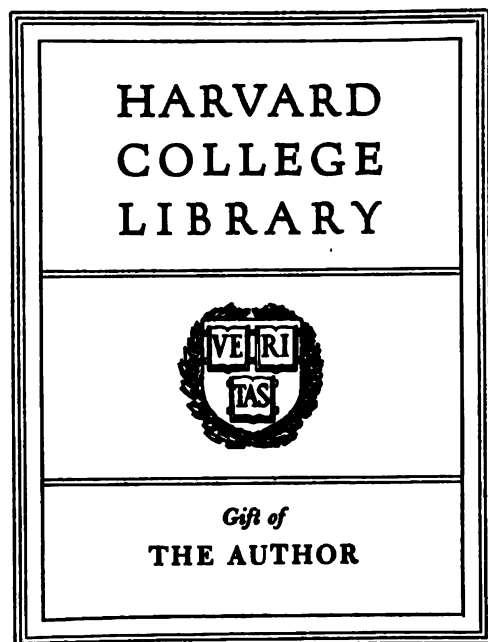
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# CATALOGUE

OF THE

## MEAN DECLINATIONS OF 981 STARS,

BETWEEN

TWELVE HOURS AND TWENTY-SIX HOURS OF RIGHT ASCENSION

AND

THIRTY DEGREES AND SIXTY DEGREES OF NORTH DECLINATION,

FOR

JANUARY 1, 1875.

PREPARED UNDER THE DIRECTION OF

BVT. BRIG. GEN'L C. B. COMSTOCK, U. S. A.

MAJOR CORPS OF ENGINEERS,

IN CHARGE OF U. S. LAKE SURVEY.

BY

*Samuel Safford*  
PROFESSOR T. H. SAFFORD,

DIRECTOR OF DEARBORN OBSERVATORY.

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WASHINGTON:  
GOVERNMENT PRINTING OFFICE.

1873.

115



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1875. June 14,  
Gift of  
The Author,  
of Cambridge.  
(H. N. 1854.)

OFFICE OF UNITED STATES LAKE SURVEY,

*Detroit, Michigan, September 20, 1872.*

21/ GENERAL: I have the honor to forward herewith a manuscript catalogue of the declinations of ~~978~~ stars for use in latitude-work in the northern part of the United States.

As this catalogue has been carefully prepared by Professor Safford, for the date January 1, 1875, it can be used for many years, and there will, doubtless, be a considerable demand for it. I would therefore recommend that it be printed.

Very respectfully, yours,

C. B. COMSTOCK,

*Major of Engineers and Brevet Brigadier-General.*

General A. A. HUMPHREYS,

*Chief of Engineers, U. S. A.*

---

OFFICE OF THE CHIEF OF ENGINEERS,

*Washington, D. C., September, 26, 1872.*

Respectfully submitted to the Secretary of War. Owing to the great value of the within catalogue of stars to officers of the Corps of Engineers engaged on the Lake Survey, boundary surveys, and military and geological surveys, and reconnaissances, I have respectfully to recommend that it be printed at the Government Printing Office, and that 250 copies be furnished on requisition from this Office.

A. A. HUMPHREYS,

*Brigadier-General and Chief of Engineers.*

Approved:

WM. W. BELKNAP,

*Secretary of War.*

SEPTEMBER 27, 1872.



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## CONSTRUCTION OF THE CATALOGUE.

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### AUTHORITIES CITED.

*M.*—Mädler's Reduction of Bradley's Stars to 1850 from all authorities published at that date.

*St.*—The Standard Catalogue of the German Astronomical Society, compiled by Argelander, Auwers, and von Asten. Most of the stars are also verified by Mädler; and the results obtained by the use of this catalogue are trustworthy, even where it is the only authority.

For stars not contained in either of these authorities, I have myself deduced proper motions, by comparison with D'Agelet, Fedorenko, Lalande, Piazz, Groombridge, and, occasionally, other old authorities, wherever the proper motion appeared sure; otherwise, I have brought up by precession alone the newer authorities, namely:

*T.*—Taylor's Madras Catalogue.

*R.*—Rümker.

*Rob.*—Robinson's Armagh Places of Stars.

*R. C.*—The Radcliffe Catalogue.

*Ay.*, with date.—Airy's Greenwich Catalogues, and observations to 1869 inclusive.

*H.*—Henderson's Edinburgh Observations, chiefly those for 1843 and 1844, which contain many stars not often observed elsewhere.

*Ja.*—Jacob's Madras Catalogue.

*Bonn.*—Argelander's later observations.

*Q.*—The Brussels observations, by Quetelet.

*R. C.*—The second Radcliffe Catalogue.

*Pulc.*—Oöm's Pulkowa Observations, volume III of the annals of that observatory.

*Main.*—The Radcliffe Observations since 1862.

*Leid.*—Annals of the Leiden Observatory, volume II.

*Wn.*—The Washington Observations, 1861–1869; many good places are in the volume for 1867.

*Sm.*—The Edinburgh Observations, 1860–1870; especially valuable for doubtful cases, which are there attended to in preference.

In case a star has been discussed by Argelander, I have introduced the results of his discussion under the title *Arg.*, and treated the star like one of the Standard list mentioned above.

### METHOD OF REDUCING THE PLACES TO 1875.

For stars in the catalogues *Q.*, *Main*, *Sm.*, the positions were first brought up to 1860, 1865, respectively, with an approximate annual variation, including proper

motion where necessary ; the remainder of the reduction was, for Mädler's stars, effected with his precessions and proper motions ; omitting the latter where it seemed to be erroneous. Standard stars from the German list were treated in like manner, and stars discussed by Argelander, using precessions and proper motions cited from those authorities. Of course, secular variation was allowed for.

For other stars, precessions and secular variations were computed for 1850, and the right ascensions and declinations brought up by their help. In case proper motions have been finally adopted for these stars, they were not applied at this stage.

#### METHOD OF DETERMINING FINAL PLACES.

For Mädler's stars, where Mädler's p. m. is considered correct, the mean of all authorities was taken, after applying to the declinations of the older authorities the systematic corrections given in my former paper in the eighth volume of the *Memoirs of the American Academy, New Series* ; but omitting them for the authorities *H., Bonn, Q., R. C., Main, Wn., Sm.*, and also for the Greenwich Catalogues of 1860, 1864, 1868, and 1869. This course is apparently a somewhat inconsistent one ; I was led to it by the desire to employ, for all stars not in Mädler, authorities similar to those he used, as he used them. In attempting to deduce systematic corrections for the later authorities I met well-known difficulties, owing in large part to the imperfections of Bradley's quadrant, upon which so much of the connection between older and newer observations depends, and thought it safer to trust to the elimination of constant errors from a mean of several authorities.

In right ascension I applied no systematic corrections at all, but omitted for the most part to take account of Jacob's and Smyth's right ascensions ; the latter (chiefly) because they came so late to hand ; they seem, however, to be too large.

The right ascensions are at best but approximate ; where the adopted mean is not sensibly different from the newer and better authorities.

Generally, I have given each authority the weight unity ; where a star was but *once* observed, a weight one-half ; sometimes, where the position seemed unusually reliable, double weight.

#### REMARKS ON THE FINAL CATALOGUE.

The numbers are those of the British Association Catalogue ; the magnitudes Argelander's, those marked with \* from the *Uranometria Nova*, the others from the *Durchmusterung*. The logarithms of  $a', b', c', d'$ , are arranged for use with the American Ephemeris and for *declinations* not *polar distances* ; they are consequently differently arranged and lettered from those in the British Association Catalogue, and have opposite signs, as follows :

British Association Catalogue logarithms,	. . . . .	$a', b', c', d'$ .
Logarithms here given,	. . . . .	$-c', -d', -a', -b'$ .

#### CHECKS EMPLOYED TO AVOID ERRORS.

The precessions in declination employed to reduce to 1875 were compared with

those computed for that date; the natural numbers corresponding to the logarithms  $a'$ . The precessions in right ascension were compared with those of the British Association Catalogue.

The logarithms  $a'$ ,  $b'$ ,  $c'$ ,  $d'$ , were compared with those of the British Association Catalogue.

The places themselves as reduced to 1875 gave at once a check upon each other; where they differed more than about  $0^s.2$  in right ascension and  $1''$  in declination from the means they were carefully revised.

#### SUPPLEMENTARY LIST.

This consists of stars not in the British Association Catalogue which have been observed by good modern authorities, at least two in number, avoiding such as are suspected of proper motion in case it has not been well determined. The methods for deducing these places are similar to those of the main catalogue.





# DECLINATIONS

## OF

### BRITISH ASSOCIATION CATALOGUE STARS

BETWEEN

30° AND 60° NORTH DECLINATION.

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log a'.	Log b'.	Log c'.	Log d'.
		h.	m.	s.	s.	s.	°	'	"	"	"				
4108	6.5	12	05	30.28	+ 3.020	- 0.004	57	45	01.0	- 20.04	- 0.04	1.3020 n	8.3806	9.4011	9.9271 n
21	6.7		08	31.26	3.002	+ 0.003	54	07	48.6	20.04	- 0.03	1.3019 n	8.5702	9.4539	9.9084 n
23	3.4*		09	13.77	2.986	+ 0.019	57	43	37.9	20.04	- 0.02	1.3018 n	8.6051	9.4244	9.9268 n
26	6.*		09	51.47	3.021	+ 0.003	41	21	21.1	20.03	- 0.04	1.3018 n	8.6335	9.5491	9.8196 n
28	5.*		10	12.97	3.031	.	33	45	33.5	20.03	- 0.12	1.3017 n	8.6490	9.5860	9.7444 n
48	6.*		13	38.88	2.978	+ 0.001	49	40	41.1	20.02	.	1.3014 n	8.7746	9.5134	9.8814 n
59	6.*		14	46.98	2.930	+ 0.007	58	33	36.3	20.01	- 0.08	1.3013 n	8.8093	9.4492	9.9302 n
77	6.*		17	37.76	2.975	- 0.006	43	14	07.1	19.99	.	1.3009 n	8.8856	9.5667	9.8344 n
80	5.*		17	56.51	2.936	- 0.003	52	15	17.3	19.99	.	1.3008 n	8.8932	9.5151	9.8967 n
85	6.4		19	04.14	2.896	- 0.004	57	28	14.9	19.99	- 0.04	1.3007 n	8.9196	9.4821	9.9244 n
88	5.6*		19	41.20	2.976	- 0.006	39	42	43.5	19.98	- 0.05	1.3006 n	8.9335	9.5934	9.8036 n
94	7.0		20	33.18	2.894	+ 0.002	55	51	03.9	19.98	.	1.3004 n	8.9521	9.5020	9.9161 n
4203	6.*		21	37.83	2.881	- 0.005	56	24	16.4	19.96	- 0.05	1.3002 n	8.9742	9.5032	9.9187 n
16	6.*		24	06.68	2.837	- 0.005	59	05	37.0	19.95	+ 0.06	1.2998 n	9.0212	9.4955	9.9311 n
17	6.*		24	07.89	2.889	- 0.024	52	13	31.5	19.94	- 0.02	1.2998 n	9.0216	9.5427	9.8954 n
19	6.2		24	12.48	2.832	.	59	27	33.8	19.94	.	1.2997 n	9.0230	9.4932	9.9327 n
33	5.*		27	29.44	2.963	.	33	56	20.4	19.91	.	1.2990 n	9.0779	9.6302	9.7447 n
35	4.5*		27	48.19	2.925	- 0.063	42	02	13.1	19.91	+ 0.29	1.2990 n	9.0828	9.6056	9.8226 n
44	7.0		29	04.47	2.943	.	37	06	51.9	19.89	.	1.2986 n	9.1021	9.6257	9.7771 n
58	6.*		32	45.14	2.902	- 0.001	41	33	44.9	19.85	- 0.04	1.2977 n	9.1536	9.6226	9.8173 n
82	6.*		38	32.87	2.849	.	44	47	15.4	19.77	.	1.2960 n	9.2238	9.6293	9.8417 n
85	6.*		39	04.65	2.881	- 0.023	39	57	31.5	19.76	+ 0.18	1.2958 n	9.2296	9.6450	9.8014 n
87	5.6*		39	15.08	2.834	.	46	07	25.9	19.76	.	1.2958 n	9.2315	9.6269	9.8514 n
4303	6.*		42	56.47	2.783	.	49	08	54.4	19.70	.	1.2945 n	9.2701	9.6281	9.8711 n
11	6.*		44	14.34	2.869	.	38	11	50.6	19.68	.	1.2940 n	9.2829	9.6624	9.7831 n
35	2.*		48	31.51	2.644	+ 0.016	56	38	17.8	19.60	- 0.04	1.2924 n	9.3225	9.6171	9.9120 n
41	6.*		49	13.78	2.756	.	47	52	29.9	19.59	.	1.2921 n	9.3287	9.6524	9.8601 n
45	5.7		50	09.46	2.836	- 0.020	38	59	24.3	19.57	+ 0.05	1.2917 n	9.3356	9.6753	9.7883 n
48	6.*		50	48.55	2.654	- 0.011	54	46	34.5	19.56	- 0.02	1.2914 n	9.3422	9.6334	9.9014 n
50	6.*		51	25.06	2.754	.	46	51	19.9	19.55	.	1.2911 n	9.3473	9.6618	9.8521 n
60	5.*		54	17.43	2.879	- 0.002	31	27	35.8	19.49	.	1.2899 n	9.3705	9.6925	9.7953 n
66	6.*		55	21.43	2.578	+ 0.005	57	02	24.3	19.47	- 0.07	1.2894 n	9.3788	9.6402	9.9110 n
84	5.*	12	59	53.70	2.816	+ 0.002	36	28	05.6	19.37	+ 0.01	1.2872 n	9.4123	9.7011	9.7591 n
89	6.*	13	00	14.52	2.712	.	45	56	14.0	19.36	.	1.2870 n	9.4147	9.6888	9.8413 n
4407	6.0		03	52.93	2.783	.	38	05	23.0	19.28	.	1.2851 n	9.4396	9.7086	9.7731 n
08	6.3		03	56.81	2.771	+ 0.002	39	12	01.4	19.28	.	1.2850 n	9.4400	9.7078	9.7836 n
14	7.0		04	16.67	2.767	- 0.006	39	23	25.3	19.27	.	1.2848 n	9.4421	9.7084	9.7852 n
15	6.2		04	18.73	2.770	- 0.004	39	09	49.7	19.27	+ 0.05	1.2848 n	9.4425	9.7087	9.7831 n
16	6.8		04	25.34	2.489	.	57	29	50.9	19.27	.	1.2848 n	9.4431	9.6694	9.9086 n
20	6.7		05	48.03	2.737	- 0.001	41	27	27.2	19.23	- 0.03	1.2840 n	9.4521	9.7098	9.8028 n
33	5.*		08	02.77	2.732	.	40	48	55.0	19.17	.	1.2827 n	9.4662	9.7157	9.7959 n
38	6.*		09	54.60	2.716	- 0.008	41	30	56.4	19.13	.	1.2816 n	9.4776	9.7193	9.8009 n
51	4.3*		11	56.12	2.709	- 0.010	41	13	52.6	19.07	+ 0.03	1.2804 n	9.4896	9.7241	9.7972 n
53	6.2		12	40.24	2.782	.	34	45	23.8	19.06	.	1.2799 n	9.4939	9.7277	9.7337 n
56	5.*		12	55.35	2.569	- 0.003	50	20	23.1	19.05	.	1.2798 n	9.4953	9.7141	9.8640 n
57	6.7		13	19.20	2.768	.	35	47	06.1	19.04	.	1.2796 n	9.4976	9.7291	9.7443 n
67	5.5		14	42.80	2.701	- 0.002	40	48	26.0	19.00	- 0.01	1.2787 n	9.5045	9.7305	9.7918 n
79	6.0		18	13.78	2.725	.	37	41	14.2	18.90	.	1.2764 n	9.5247	9.7388	9.7605 n
84	2.*		18	53.40	2.413	+ 0.019	55	34	42.9	18.88	- 0.06	1.2759 n	9.5282	9.7082	9.9094 n
86	4.2		18	54.32	2.413	+ 0.019	55	34	31.0	18.88	- 0.06	1.2759 n	9.5283	9.7191	9.8901 n
93	5.*		20	13.00	2.401	+ 0.018	55	38	22.4	18.84	- 0.05	1.2750 n	9.5352	9.7226	9.8896 n
4519	6.*		25	50.42	2.619	.	42	44	59.4	18.66	.	1.2710 n	9.5633	9.7536	9.8005 n
36	5.*		29	12.76	2.677	+ 0.005	37	49	23.5	18.55	- 0.01	1.2684 n	9.5792	9.7600	9.7538 n
38	5.*		29	20.63	2.473	- 0.012	49	39	19.6	18.55	.	1.2683 n	9.5798	9.7563	9.8482 n
4540	6.*	13	29	18.90	+ 2.318	+ 0.001	55	59	21.9	- 18.55	- 0.02	1.2683 n	9.5797	9.7464	9.8847 n

## CATALOGUE OF STARS.

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $\alpha'$ .	Log $\delta'$ .	Log $\epsilon'$ .	Log $\delta'$ .
		h.	m.	s.	s.	s.	°	'	"	"	"				
4545	6.*	13	29	54.83	+ 2.563	.	44	50	11.5	- 18.53	.	1.2678 n	9.5824	9.7614	9.8139 n
50	7.2		31	37.85	2.377	- 0.002	53	19	35.6	18.47	- 0.08	1.2665 n	9.5902	9.7569	9.8685 n
52	5.*		31	54.56	2.679	.	36	55	52.3	18.46	.	1.2663 n	9.5915	9.7645	9.7429 n
55	7.0		32	18.01	2.369	.	53	13	50.5	18.45	.	1.2660 n	9.5932	9.7587	9.8675 n
56	6.5		32	42.44	2.413	.	51	21	04.9	18.44	.	1.2656 n	9.5950	9.7622	9.8560 n
61	6.*		34	40.09	2.345	- 0.013	53	33	12.2	18.37	+ 0.01	1.2640 n	9.6036	9.7639	9.8673 n
68	5.5		35	59.70	2.285	.	55	18	52.1	18.32	- 0.03	1.2628 n	9.6093	9.7644	9.8758 n
92	6.3		40	37.03	2.723	.	31	31	38.7	18.15	.	1.2589 n	9.6281	9.7724	9.6752 n
95	6.0		40	54.28	2.608	.	39	07	48.9	18.14	.	1.2586 n	9.6296	9.7821	9.7566 n
96	5.7		40	55.24	2.563	.	41	43	00.1	18.14	.	1.2586 n	9.6297	9.7836	9.7797 n
4600	5.6*		41	36.53	2.604	.	39	10	07.9	18.11	.	1.2580 n	9.6324	9.7934	9.7563 n
05	6.*		41	55.68	2.248	+ 0.005	55	03	26.1	18.10	- 0.07	1.2577 n	9.6337	9.7790	9.8692 n
07	2.*	American Nautical Almanac			star.	.					.				
09	6.*		42	48.39	2.537	.	42	40	24.1	18.07	.	1.2569 n	9.6372	9.7874	9.7859 n
10	6.*		43	00.25	2.711	.	31	48	42.6	18.06	.	1.2567 n	9.6379	9.7764	5.6765 n
27	6.*		45	33.36	2.649	.	35	23	33.6	17.96	.	1.2544 n	9.6478	9.7861	9.7149 n
28	5.*		45	38.25	2.650	.	35	17	10.0	17.96	.	1.2543 n	9.6481	9.7861	9.7138 n
32	5.7		46	16.53	2.651	.	35	03	50.8	17.94	.	1.2537 n	9.6506	9.7868	9.7108 n
49	6.*		49	15.04	2.216	+ 0.013	54	20	36.5	17.82	- 0.05	1.2508 n	9.6617	9.7964	9.8585 n
52	6.*		50	37.89	2.675	.	32	38	35.1	17.76	.	1.2495 n	9.6663	9.7892	9.6792 n
76	7.0		55	49.66	2.664	.	32	10	11.0	17.55	.	1.2442 n	9.6850	9.7959	9.6683 n
78	7.5		57	00.55	2.659	.	32	15	48.4	17.50	.	1.2429 n	9.6890	9.7978	9.6681 n
84	6.0		58	20.64	2.239	.	51	34	24.6	17.44	.	1.2415 n	9.6935	9.8172	9.8333 n
94	7.2	13	00	53.57	2.660	.	31	26	52.8	17.33	- 0.15	1.2387 n	9.7019	9.8013	9.6540 n
99	5.3	14	02	55.85	2.401	.	44	26	59.6	17.24	.	1.2364 n	9.7084	9.8245	9.7796 n
4701	6.*		03	37.04	2.357	- 0.004	50	02	58.1	17.21	+ 0.03	1.2357 n	9.7106	9.8276	9.8180 n
14	6.5		05	48.05	2.621	.	32	53	02.3	17.11	.	1.2330 n	9.7179	9.8115	9.6656 n
25	7.2		08	59.17	2.146	+ 0.014	52	22	22.0	16.96	- 0.04	1.2294 n	9.7272	9.8373	9.8260 n
26	4.5		09	00.33	2.146	+ 0.014	52	22	28.8	16.96	- 0.04	1.2294 n	9.7272	9.8373	9.8260 n
28	6.*		09	21.10	2.425	.	42	06	22.0	16.94	- 0.14	1.2290 n	9.7283	9.8329	9.7532 n
36	7.0		10	54.00	2.108	.	53	07	03.0	16.87	.	1.2271 n	9.7329	9.8406	9.8280 n
38	6.*		11	19.40	2.456	.	40	19	29.9	16.85	.	1.2268 n	9.7341	9.8336	9.7354 n
41	4.*		11	37.67	2.301	- 0.016	46	39	46.3	16.83	+ 0.11	1.2262 n	9.7350	9.8407	9.7858 n
42	4.5*		11	44.28	2.143	- 0.015	51	56	39.8	16.83	+ 0.07	1.2261 n	9.7353	9.8423	9.8201 n
47	5.*		12	42.68	2.538	.	36	05	13.2	16.78	.	1.2249 n	9.7382	9.8280	9.6928 n
52	6.8		12	54.38	2.137	- 0.001	51	53	09.0	16.77	.	1.2246 n	9.7387	9.8444	9.8183 n
56	7.3		14	08.39	2.105	.	52	36	35.1	16.71	.	1.2231 n	9.7423	9.8466	9.8210 n
58	6.*		14	39.72	2.463	.	39	22	09.8	16.70	.	1.2224 n	9.7438	9.8370	9.7226 n
78	7.2		18	18.18	2.483	.	37	46	23.2	16.51	.	1.2178 n	9.7540	9.8392	9.7027 n
83	6.3		20	23.11	2.450	.	38	57	31.1	16.41	.	1.2150 n	9.7596	9.8444	9.7113 n
89	4.3*	American Nautical Almanac			star.	.					.				
97	6.5		23	05.90	2.487	.	36	45	24.8	16.27	.	1.2114 n	9.7669	9.8435	9.6862 n
4803	6.5		24	28.40	2.572	.	32	20	53.6	16.20	.	1.2095 n	9.7704	9.8338	9.6357 n
04	6.*		24	16.87	2.120	- 0.031	50	24	18.1	16.21	- 0.05	1.2097 n	9.7699	9.8635	9.7944 n
05	6.3		24	41.22	2.352	+ 0.014	42	21	39.5	16.19	- 0.21	1.2092 n	9.7710	9.8563	9.7355 n
08	4.3*		26	26.56	2.594	- 0.006	30	55	16.4	16.10	+ 0.15	1.2067 n	9.7755	9.8317	9.6154 n
12	3.2*		27	02.69	2.427	- 0.004	38	51	20.9	16.06	+ 0.14	1.2059 n	9.7770	9.8533	9.7012 n
16	6.8		28	13.85	2.453	.	37	30	45.3	16.00	.	1.2042 n	9.7800	9.8519	9.6866 n
20	6.8		28	52.40	2.541	.	33	05	00.9	15.97	.	1.2032 n	9.7816	9.8412	9.6382 n
23	5.0		29	14.27	2.598	+ 0.017	30	17	22.0	15.95	+ 0.14	1.2027 n	9.7826	9.8327	9.6033 n
25	6.2		29	31.97	2.456	.	37	10	35.9	15.93	.	1.2023 n	9.7833	9.8528	9.6814 n
26	7.3		29	24.31	1.977	- 0.019	53	26	58.9	15.94	+ 0.28	1.2025 n	9.7830	9.8726	9.8052 n
27	6.2		29	31.84	2.191	.	47	20	05.2	15.93	.	1.2023 n	9.7833	9.8695	9.7666 n
30	6.*		30	17.62	2.103	.	49	54	49.2	15.89	.	1.2012 n	9.7852	9.8727	9.7827 n
41	6.0		33	31.00	2.264	.	44	10	56.4	15.72	+ 0.06	1.1964 n	9.7930	9.8714	9.7375 n
43	6.*		34	11.07	2.240	- 0.007	44	56	41.8	15.68	- 0.02	1.1954 n	9.7946	9.8735	9.7423 n
45	6.*		34	17.27	1.900	.	54	33	51.4	15.68	.	1.1953 n	9.7948	9.8805	9.8042 n
63	6.8		37	36.03	2.425	.	37	17	24.0	15.50	.	1.1902 n	9.8026	9.8632	9.6704 n
70	5.5		38	53.48	2.329	.	40	59	20.2	15.37	.	1.1882 n	9.8056	9.8732	9.7029 n
81	6.8		39	53.41	2.190	.	45	42	55.4	15.37	.	1.1866 n	9.8078	9.8824	9.7393 n
85	7.0		40	46.92	2.269	.	42	54	25.1	15.32	.	1.1852 n	9.8098	9.8792	9.7160 n
97	6.*		44	12.29	2.377	- 0.021	38	19	38.0	15.12	+ 0.12	1.1796 n	9.8174	9.8737	9.6699 n
4903	6.*		44	51.31	2.138	+ 0.001	46	38	16.5	15.08	- 0.08	1.1785 n	9.8188	9.8904	9.7379 n
06	6.*		45	33.56	2.386	- 0.020	37	47	09.0	15.04	+ 0.09	1.1774 n	9.8203	9.8739	9.6624 n
07	6.*		45	26.34	2.046	- 0.007	49	14	06.9	15.05	+ 0.07	1.1776 n	9.8201	9.8942	9.7547 n
17	6.5		47	38.76	2.114	.	46	59	31.5	14.92	.	1.1738 n	9.8248	9.8946	9.7357 n
18	6.*		48	16.08	1.532	- 0.016	59	48	10.0	14.89	+ 0.17	1.1728 n	9.8261	9.9016	9.8073 n
34	6.8		51	16.99	2.203	.	41	38	26.6	14.71	.	1.1676 n	9.8323	9.8898	9.6879 n
37	6.*		52	13.95	1.978	+ 0.004	50	08	25.0	14.65	- 0.23	1.1659 n	9.8342	9.9043	9.7489 n
42	6.5		54	38.36	2.293	.	40	08	31.2	14.51	.	1.1616 n	9.8391	9.8903	9.6688 n
43	5.*		54	49.36	2.303	- 0.004	39	45	43.8	14.49	+ 0.05	1.1612 n	9.8394	9.8896	9.6650 n
52	6.3		56	22.83	2.046	.	47	46	18.8	14.40	.	1.1584 n	9.8425	9.9068	9.7257 n
58	3.*	American Nautical Almanac			.	.					.	1.1568 n	9.8442	9.8950	9.6706 n
61	6.*		58	06.79	2.398	.	35	41	46.8	14.30	.	1.1552 n	9.8459	9.8817	9.6191 n
65	6.2		58	41.89	2.127	.	45	08	02.3	14.27	.	1.1541 n	9.8470	9.9055	9.7024 n
74	5.*	14	59	40.16	2.017	- 0.039	48	08	28.8	14.20	.	1.1523 n	9.8488	9.9114	9.7221 n
80	5.*	15	01	17.30	1.992	- 0.008	48	38	04.5	14.10	+ 0.02	1.1492 n	9.8519	9.9140	9.7224 n
92	5.5		02	42.39	1.703	.	55	02	17.0	14.01	.	1.1461 n	9.8545	9.9216	9.7575 n
5000	7.2		05	34.98	2.429	.	33	33	12.2	13.83	.	1.1408 n	9.8598	9.8818	9.5811 n
19	7.5		07	23.45	1.943	.	49	09	51.5	13.72	.	1.1372 n	9.8630	9.9220	9.7199 n
5026	6.0	15	08	49.99	+ 2.284	.	38	44	02.5	- 13.63	.	1.1342 n	9.8656	9.9018	9.6289 n

## CATALOGUE OF STARS.

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No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $\alpha'$ .	Log $\delta'$ .	Log $\epsilon'$ .	Log $\zeta'$ .
		h.	m.	s.	s.	s.	°	'	"	"	"				
5033	6.1	15	09	39.21	+ 2.165	.	42	38	16.3	- 13.57	.	1.1326 n	9.8670	9.9127	9.6612 n
36	3.*		10	27.85	2.411	+ 0.010	33	46	56.2	13.52	- 0.10	1.1309 n	9.8684	9.8873	9.5738 n
61	6.*		14	58.33	2.489	- 0.009	30	04	14.9	13.22	- 0.04	1.1213 n	9.8761	9.8763	9.5191 n
64	7.0		15	33.76	1.842	.	50	40	01.7	13.18	.	1.1200 n	9.8771	9.9334	9.7063 n
71	6.		16	24.71	1.759	.	52	24	34.1	13.13	.	1.1182 n	9.8784	9.9363	9.7150 n
72	5.6		16	48.30	2.404	- 0.001	33	22	55.8	13.10	.	1.1173 n	9.8791	9.8914	9.5551 n
75	5.*		18	02.42	2.466	+ 0.011	30	44	25.9	13.02	- 0.18	1.1146 n	9.8811	9.8818	9.5210 n
76	6.*		17	59.92	2.217	.	40	01	43.9	13.02	.	1.1147 n	9.8810	9.9145	9.6209 n
77	7.0		17	50.20	1.733	.	52	47	31.3	13.03	.	1.1151 n	9.8808	9.9383	9.7141 n
84	.	American Nautical Almanac.			.	.	.	.	.	12.91	.	1.1108 n	9.8839	9.9096	9.5960 n
92	6.6		21	04.89	1.949	.	47	30	07.7	12.82	.	1.1078 n	9.8860	9.9346	9.6733 n
97	3.*		22	09.11	1.326	+ 0.003	59	24	16.6	12.74	+ 0.01	1.1053 n	9.8876	9.9471	9.7381 n
5113	6.7		25	24.60	1.906	.	48	08	35.0	12.52	.	1.0977 n	9.8927	9.9401	9.6676 n
22	4.5		26	26.36	2.152	+ 0.001	41	15	37.0	12.45	+ 0.01	1.0953 n	9.8942	9.9259	9.6123 n
30	4.8		27	18.44	2.147	- 0.003	41	19	28.6	12.39	+ 0.01	1.0932 n	9.8955	9.9268	9.6108 n
31	4.*		27	53.28	2.419	- 0.004	31	46	55.1	12.35	- 0.06	1.0918 n	9.8964	9.9242	9.5112 n
55	5.*		30	39.65	2.197	+ 0.002	39	25	34.8	12.16	+ 0.01	1.0850 n	9.9004	9.9244	9.5856 n
57	6.7		30	52.94	2.059	.	43	34	55.6	12.15	.	1.0844 n	9.9007	9.9359	9.6207 n
64	7.0		31	29.72	1.796	.	50	06	50.6	12.10	.	1.0829 n	9.9016	9.9494	9.6657 n
68	5.*		33	20.29	2.147	+ 0.007	40	45	41.7	11.97	+ 0.08	1.0782 n	9.9042	9.9306	9.5909 n
75	6.8		34	08.55	2.032	.	44	00	44.9	11.92	.	1.0762 n	9.9054	9.9399	9.6159 n
77	6.*		34	16.11	1.909	+ 0.011	47	12	38.0	11.91	- 0.13	1.0759 n	9.9055	9.9470	9.6393 n
78	4.*		34	40.25	2.258	+ 0.001	37	02	33.3	11.88	- 0.05	1.0748 n	9.9061	9.9199	9.5526 n
81	6.*		34	55.16	1.748	.	50	49	55.1	11.86	.	1.0742 n	9.9065	9.9538	9.6615 n
5204	6.*		39	03.66	2.364	- 0.003	32	54	42.2	11.57	- 0.01	1.0633 n	9.9121	9.9074	9.4962 n
10	6.*		39	26.71	1.633	.	52	45	22.0	11.54	+ 0.03	1.0622 n	9.9126	9.9608	9.6610 n
48	6.0		44	36.80	1.440	.	55	45	35.7	11.17	.	1.0480 n	9.9193	9.9688	9.6632 n
59	5.4*		46	31.28	2.259	- 0.002	36	02	46.7	11.03	- 0.37	1.0426 n	9.9218	9.9244	9.5101 n
71	4.5		48	21.09	2.032	+ 0.036	42	48	08.7	10.87	+ 0.61	1.0372 n	9.9240	9.9488	9.5672 n
79	6.*		49	22.26	1.390	.	56	11	46.2	10.82	.	1.0342 n	9.9253	9.9736	9.6516 n
87	6.*		50	27.04	2.000	.	43	30	12.5	10.74	+ 0.07	1.0310 n	9.9266	9.9523	9.5667 n
95	5.7		51	14.74	2.177	+ 0.004	38	18	33.2	10.68	+ 0.10	1.0286 n	9.9275	9.9371	9.5188 n
98	6.0*		51	18.25	2.018	+ 0.002	42	55	50.8	10.68	- 0.01	1.0285 n	9.9276	9.9514	9.5595 n
5307	6.6		53	24.39	1.157	.	59	16	21.5	10.52	.	1.0221 n	9.9301	9.9792	9.6542 n
10	6.*		54	20.63	2.211	.	36	59	57.8	10.45	.	1.0192 n	9.9312	9.9345	9.4964 n
13	5.1		54	49.44	1.433	- 0.024	55	06	12.7	10.42	+ 0.10	1.0177 n	9.9317	9.9773	9.6294 n
16	6.0		55	31.51	1.696	.	50	14	17.4	10.36	.	1.0155 n	9.9325	9.9438	9.5991 n
19	5.7		56	16.05	2.307	- 0.010	33	40	55.0	10.31	- 0.75	1.0132 n	9.9334	9.9226	9.4550 n
21	5.0		56	26.10	2.403	- 0.007	30	12	07.2	10.29	- 0.02	1.0126 n	9.9336	9.9067	9.4121 n
36	6.*		58	43.57	2.202	.	36	58	40.0	10.14	.	1.0053 n	9.9361	9.9374	9.4824 n
38	4.5		58	54.26	1.859	+ 0.005	46	23	04.1	10.11	- 0.08	1.0047 n	9.9363	9.9659	9.5623 n
41	6.0		58	54.15	1.524	.	53	15	49.5	10.11	.	1.0047 n	9.9363	9.9785	9.6064 n
48	4.3	15	59	32.04	1.154	- 0.041	58	53	58.3	10.06	+ 0.33	1.0026 n	9.9370	9.9844	9.6331 n
85	5.0	16	04	24.10	2.195	- 0.003	36	48	35.4	9.69	+ 0.36	0.9864 n	9.9422	9.9405	9.4617 n
88	4.*		04	49.73	1.889	- 0.010	45	15	48.6	9.66	.	0.9849 n	9.9427	9.9675	9.5342 n
5400	7.0		06	21.14	1.929	+ 0.013	44	09	12.8	9.54	- 0.32	0.9796 n	9.9443	9.9657	9.5204 n
11	6.*		07	13.92	2.191	.	36	44	57.6	9.47	.	0.9765 n	9.9452	9.9421	9.4513 n
15	6.*		06	36.11	1.169	.	58	15	49.4	9.52	.	0.9787 n	9.9445	9.9897	9.6062 n
17	6.3		07	39.39	1.983	.	42	41	44.0	9.44	.	0.9750 n	9.9456	9.9624	9.5041 n
32	6.*		09	59.80	2.266	- 0.023	34	10	35.4	9.26	- 0.06	0.9666 n	9.9479	9.9331	9.4140 n
60	6.*		15	38.48	2.063	.	40	00	31.4	8.82	.	0.9454 n	9.9533	9.9589	9.4514 n
61	6.0		15	41.82	1.673	.	49	20	16.1	8.81	.	0.9452 n	9.9534	9.9841	9.5230 n
63	3.4		15	58.97	1.800	- 0.001	46	36	42.7	8.79	+ 0.02	0.9441 n	9.9536	9.9783	9.5033 n
73	5.*		17	13.65	2.342	- 0.006	31	11	00.8	8.70	+ 0.13	0.9392 n	9.9548	9.9231	9.3512 n
79	5.2		17	39.08	2.255	.	34	05	41.4	8.66	.	0.9375 n	9.9552	9.9370	9.3840 n
80	5.3		17	46.66	2.258	.	33	59	43.5	8.65	.	0.9370 n	9.9553	9.9366	9.3824 n
84	6.*		18	08.60	2.299	+ 0.003	32	37	33.4	8.62	- 0.07	0.9356 n	9.9556	9.9305	9.3641 n
96	5.7		20	56.08	2.134	+ 0.001	37	40	47.2	8.40	- 0.01	0.9247 n	9.9581	9.9535	9.4083 n
97	7.0		20	55.24	1.858	.	44	58	33.3	8.40	.	0.9244 n	9.9581	9.9771	9.4715 n
99	6.5		21	20.30	1.484	.	52	34	29.4	8.37	.	0.9226 n	9.9584	9.9936	9.5204 n
5502	5.7		21	41.50	1.303	+ 0.005	55	29	23.2	8.34	- 0.01	0.9212 n	9.9587	9.9979	9.5350 n
03	6.9		21	50.28	1.515	.	52	00	01.1	8.33	.	0.9206 n	9.9589	9.9930	9.5149 n
15	7.2		23	12.57	2.280	- 0.002	32	58	43.4	8.22	.	0.9148 n	9.9599	9.9347	9.3485 n
23	5.6		24	32.31	1.964	+ 0.004	42	09	30.1	8.11	+ 0.06	0.9092 n	9.9612	9.9710	9.4338 n
34	7.1		26	49.30	2.250	- 0.001	33	46	59.2	7.93	+ 0.01	0.8993 n	9.9631	9.9402	9.4322 n
35	5.8		26	40.33	1.647	.	49	14	03.4	7.94	.	0.8999 n	9.9629	9.9907	9.4771 n
41	6.9		28	36.84	2.338	- 0.006	30	45	44.2	7.79	- 0.04	0.8913 n	9.9645	9.9264	9.2980 n
46	6.8		29	19.95	2.095	.	38	20	58.8	7.73	.	0.8880 n	9.9651	9.9604	9.3786 n
49	6.8		29	39.20	1.579	.	50	24	20.5	7.70	.	0.8866 n	9.9653	9.9945	9.4712 n
52	4.*		30	04.43	1.931	+ 0.001	42	41	45.6	7.67	+ 0.06	0.8846 n	9.9657	9.9756	9.4138 n
59	7.0		30	56.04	1.459	.	52	29	50.0	7.60	.	0.8807 n	9.9663	9.9993	9.4780 n
68	6.*		32	32.48	1.747	.	46	52	00.8	7.47	.	0.8732 n	9.9676	9.9885	9.4342 n
74	5.3		33	14.05	1.414	- 0.002	53	09	07.1	7.41	.	0.8699 n	9.9681	0.0016	9.4710 n
75	5.0		33	16.50	1.412	- 0.003	53	10	34.6	7.41	- 0.02	0.8697 n	9.9681	0.0017	9.4709 n
96	5.0		35	21.26	1.628	- 0.004	49	10	25.0	7.24	+ 0.01	0.8597 n	9.9697	9.9953	9.4364 n
99	5.4		35	28.92	1.204	.	56	15	35.8	7.23	.	0.8590 n	9.9698	0.0072	9.4768 n
5604	3.2*		36	34.53	2.290	- 0.032	31	49	50.0	7.14	+ 0.41	0.8536 n	9.9706	9.9352	9.2736 n
15	7.7		38	36.95	2.135	.	36	44	42.0	6.97	.	0.8434 n	9.9720	9.9584	9.3181 n
17	3.*	American Nautical Almanac.			.	star.	.	.	.	.	.	.	.	.	.
19	6.0		39	15.12	2.216	.	34	16	12.4	6.92	.	0.8401 n	9.9725	9.9480	9.2885 n
5629	6.3	16	40	24.84	+ 1.213	.	55	55	11.0	- 6.82	.	0.8340 n	9.9733	0.0094	9.4501 n

## CATALOGUE OF STARS.

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $\alpha'$ .	Log $\delta'$ .	Log $\epsilon'$ .	Log $\delta'$ .
		h.	m.	s.	s.	s.	"	"	"	"	"				
5643	5.0*	16	42	55.71	+ 1.127	+ 0.006	57 00	20.7	-	6.62	+ 0.06	0.8207 n	9.9750	0.0120	9.4421 n
44	6.5		43	19.80	1.915		42 27	45.8		6.58		0.8185 n	9.9752	9.9813	9.3457 n
52	6.9		44	23.57	2.336	- 0.005	30 10	50.9		6.50	+ 0.12	0.8126 n	9.9759	9.9298	9.2118 n
58	6.*		44	17.50	1.222		55 37	55.3		6.50		0.8132 n	9.9759	0.0110	9.4277 n
66	6.*		45	46.27	2.339		30 01	16.0		6.38	+ 0.01	0.8049 n	9.9768	9.9294	9.2020 n
67	4.5*		45	34.54	1.750	- 0.001	46 12	06.6		6.40	- 0.08	0.8060 n	9.9767	9.9932	9.3623 n
93	5.*		48	13.59	2.278	- 0.008	31 54	36.1		6.18	0.00	0.7908 n	9.9783	9.9401	9.2118 n
5706	7.0		50	43.72	1.715		46 44	32.3		5.97		0.7759 n	9.9798	9.9968	9.3360 n
31	3.4*		55	30.46	2.296	- 0.002	31 06	42.2		5.57	+ 0.03	0.7457 n	9.9826	9.9384	9.1568 n
47	5.*	American Nautical Almanac			star.							0.7359 n	9.9834	9.9521	9.1785 n
52	6.0		57	04.07	1.099		56 52	20.9		5.44		0.7354 n	9.9834	0.0184	9.3562 n
63	6.5	16	59	01.09	2.148	+ 0.007	35 35	30.8		5.27	- 0.03	0.7221 n	9.9844	9.9611	9.1848 n
75	6.5	17	01	16.50	1.823		43 58	59.3		5.08		0.7060 n	9.9856	9.9930	9.2455 n
76	5.8		01	30.71	1.585		48 58	40.0		5.06		0.7043 n	9.9857	0.0064	9.2798 n
77	7.4		02	12.93	2.148		35 29	26.7		5.00		0.6992 n	9.9860	9.9617	9.1609 n
85	4.8		02	44.64	1.246	- 0.012	54 38	07.7		4.96	+ 0.07	0.6953 n	9.9863	0.0176	9.3045 n
88	5.*		03	36.22	2.126		36 05	55.9		4.89		0.6888 n	9.9867	9.9647	9.1569 n
90	6.*		03	41.90	1.957		40 40	50.1		4.88		0.6881 n	9.9868	9.9829	9.2001 n
95	6.5		05	13.13	1.467		51 00	05.4		4.75		0.6765 n	9.9875	0.0120	9.2648 n
97	6.7		05	09.34	0.957		58 25	55.4		4.75		0.6770 n	9.9874	0.0232	9.3053 n
5801	6.7		05	23.82	1.150		55 55	37.3		4.73		0.6751 n	9.9876	0.0204	9.2911 n
34	3.4		10	41.67	2.089		36 57	04.5		4.28	+ 0.01	0.6315 n	9.9899	9.9704	9.1083 n
42	5.*		12	42.43	2.214	- 0.003	33 14	09.5		4.11		0.6137 n	9.9907	9.9539	9.0504 n
47	5.*		13	21.65	2.068	- 0.001	37 25	24.9		4.05	+ 0.06	0.6077 n	9.9909	9.9730	9.0893 n
53	6.*		13	37.70	1.520		49 49	32.5		4.03		0.6053 n	9.9910	0.0122	9.1862 n
63	5.6*		15	58.97	2.231	+ 0.011	32 37	47.2		3.83	- 1.04	0.5829 n	9.9919	9.9517	9.0125 n
71	5.5		16	49.21	1.694	- 0.006	46 21	51.1		3.76	+ 0.02	0.5747 n	9.9922	0.0048	9.1322 n
74	5.*		17	37.50	1.965		40 05	53.9		3.69	- 0.10	0.5666 n	9.9925	9.9846	9.0734 n
86	4.*		19	22.35	2.070	+ 0.002	37 15	43.2		3.54	- 0.02	0.5485 n	9.9931	9.9737	9.0284 n
95	6.8		20	07.30	2.077	- 0.002	37 03	50.5		3.47		0.5405 n	9.9934	9.9730	9.0185 n
5302	6.3		21	12.78	1.032		57 07	30.6		3.38		0.5286 n	9.9937	0.0267	9.1516 n
11	6.		23	25.43	1.586	- 0.001	48 21	56.5		3.19	- 0.03	0.5033 n	9.9944	0.0112	9.0747 n
18	6.0		24	12.45	0.894		58 45	23.6		3.12		0.4940 n	9.9947	0.0292	9.1238 n
27	6.*		26	11.37	2.269		31 15	09.2		2.95		0.4694 n	9.9953	9.9465	8.8823 n
29	6.5		26	29.67	2.001		38 58	35.7		2.92		0.4655 n	9.9953	9.9821	8.9620 n
37	3.2		27	36.48	1.352	- 0.002	52 23	40.5		2.82		0.4510 n	9.9956	0.0208	9.0477 n
44	6.*		29	09.49	1.906		41 19	59.3		2.69		0.4298 n	9.9961	9.9913	8.9475 n
50	5.2		29	42.92	1.159	+ 0.020	55 16	12.2		2.64	+ 0.03	0.4219 n	9.9962	0.0261	9.0346 n
51	5.2		29	48.28	1.160	+ 0.020	55 15	30.6		2.63	+ 0.02	0.4207 n	9.9962	0.0261	9.0333 n
62	6.*		31	51.20	2.278		30 51	49.6		2.46		0.3903 n	9.9967	9.9453	8.7983 n
75	6.*		33	21.56	1.562	+ 0.005	48 39	31.9		2.33	+ 0.02	0.3665 n	9.9971	0.0138	8.9399 n
86	6.0		35	14.27	2.264		31 16	11.4		2.16		0.3349 n	9.9975	9.9478	8.7480 n
90	3.4		35	56.17	1.691		46 04	25.1		2.10	- 0.01	0.3225 n	9.9976	0.0074	8.8778 n
97	6.5		36	50.42	1.808		43 31	56.8		2.02		0.3059 n	9.9978	9.9999	8.8419 n
6013	6.5		39	23.18	1.779		44 08	23.3		1.80		0.2555 n	9.9982	0.0022	8.7962 n
35	6.*		43	46.78	1.608		47 39	22.0		1.42		0.1502 n	9.9989	0.0126	8.7168 n
52	5.*		46	05.11	1.434	- 0.007	50 48	40.7		1.22	+ 0.19	0.0826 n	9.9992	0.0203	8.6708 n
56	6.*		46	47.08	1.566	+ 0.001	48 25	42.7		1.16	- 0.02	0.0612 n	9.9993	0.0148	8.6330 n
62	6.2		48	00.66	1.950		40 00	37.2		1.05	+ 0.04	0.0210 n	9.9994	9.9888	8.5270 n
68	5.*		49	13.89	1.949		40 01	57.4		0.93	+ 0.06	9.9699 n	9.9995	9.9889	8.4761 n
79	3.4*		51	22.10	1.022	+ 0.014	56 53	34.0		0.75	+ 0.07	9.8784 n	9.9997	0.0310	8.4993 n
82	4.*		51	57.98	2.055		37 16	05.6		0.70	+ 0.02	9.8469 n	9.9997	9.9779	8.3269 n
87	4.5*		53	43.30	2.294	+ 0.004	30 12	03.6		0.55		9.7398 n	9.9998	9.9434	8.1392 n
91	2.3*	American Ephemeris star.													
95	7.2		54	10.71	1.806		43 25	44.7		0.51		9.7070 n	9.9999	0.0010	8.2431 n
6109	6.*		56	21.96	1.710		45 30	30.1		0.32		9.5022 n	9.9999	0.0075	8.0533 n
21	6.*	17	59	52.87	1.562		48 27	33.0	-	0.01		8.0014 n	0.0000	0.0154	6.5834 n
47	5.*	18	02	16.83	2.282	- 0.007	30 32	43.5	+	0.20	+ 0.07	9.3001	0.0000	9.9454	7.7040
62	5.*		03	42.80	1.805		43 26	51.3		0.33		9.5117	9.9999	0.0011	8.0469
73	5.*		07	12.03	2.257	+ 0.004	31 22	30.1		0.63	- 0.05	9.7991	9.9998	9.9498	8.2134
81	7.5		07	48.62	1.072		56 14	18.8		0.68		9.8346	9.9998	0.0302	8.4523
85	6.*		07	57.91	1.216	+ 0.015	54 14	58.3		0.70	+ 0.22	9.8430	9.9997	0.0272	8.4501
93	6.0*		08	54.60	1.999		38 44	22.4		0.78		9.8918	9.9997	9.9840	8.3860
6203	5.5		11	45.31	1.864	- 0.007	42 07	03.5		1.03		0.0120	9.9994	9.9964	8.5364
16	7.0		12	29.60	1.051		56 32	44.5		1.09		0.0384	9.9994	0.0303	8.6576
13	6.*		13	08.70	1.916	- 0.020	40 53	17.9		1.15	+ 0.06	0.0608	9.9993	9.9919	8.5746
35	6.*		15	28.88	2.102	+ 0.001	36 00	32.5		1.35	+ 0.04	0.1314	9.9990	9.9720	8.5986
10	6.*		17	00.48	1.408		51 17	37.9		1.49		0.1721	9.9988	0.0210	8.7623
52	6.5		17	59.18	1.502		49 39	53.4		1.57		0.1965	9.9987	0.0174	8.7764
55	5.*		18	20.88	1.535		49 03	31.5		1.60		0.2051	9.9986	0.0159	8.7811
58	6.8		18	33.05	1.411		51 14	28.4		1.62		0.2099	9.9986	0.0207	8.7997
68	5.6*		20	06.73	1.976	- 0.002	39 26	24.5		1.76		0.2449	9.9983	9.9868	8.7457
89	5.*		22	04.91	0.880	- 0.007	58 43	43.5		1.93	+ 0.06	0.2854	9.9980	0.0318	8.9151
6311	7.2		24	58.10	0.804		59 37	38.5		2.18		0.3385	9.9974	0.0322	8.9722
18	6.2		25	58.70	0.819		59 27	58.0		2.27		0.3557	9.9972	0.0329	8.9887
35	6.5		29	19.82	1.373		52 01	20.2		2.56		0.4081	9.9964	0.0217	9.0026
48	5.*		30	25.06	1.035	- 0.003	56 57	00.2		2.65	- 0.04	0.4238	9.9962	0.0280	9.0450
49	7.3		31	10.53	2.006		38 47	37.9		2.72	- 0.04	0.4344	9.9960	9.9818	8.9292
50	5.6		31	06.52	1.360		52 15	18.0		2.71		0.4335	9.9960	0.0218	9.0294
55	1.*		32	42.36	2.012	+ 0.019	38 40	06.3		2.85	+ 0.29	0.4551	9.9956	9.9810	8.9487
6357	6.5	18	33	58.82	+ 1.979		39 33	32.2	+	2.96		0.4716	9.9952	9.9843	8.9735

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $a'$ .	Log $b'$ .	Log $c'$ .	Log $d'$ .
		h.	m.	s.	s.	s.	°	'	"	"	"				
6364	6.2	18	35	31.28	+ 1.930	. . .	40	49	18.1	+ 3.10	. . .	0.4907	9.9948	9.9887	9.0040
65	7.2		35	57.85	2.030	. . .	38	15	07.8	3.13	. . .	0.4961	9.9946	9.9788	8.9857
68	7.2		36	05.08	1.176	+ 0.010	55	07	48.4	3.14	+ 0.05	0.4975	9.9946	0.0246	9.1094
72	6.*		37	00.34	1.378	. . .	52	04	43.7	3.22	. . .	0.5083	9.9943	0.0192	9.1032
90	4.3		40	11.85	1.984	+ 0.001	39	32	26.1	3.50	+ 0.06	0.5438	9.9933	9.9829	9.0456
91	4.6		40	14.20	1.987	+ 0.001	39	28	58.7	3.50	+ 0.08	0.5444	9.9933	9.9826	9.0456
92	4.5		40	28.07	2.062	+ 0.003	37	28	31.6	3.52	+ 0.02	0.5468	9.9932	9.9746	9.0289
94	5.5		40	29.95	2.062	+ 0.002	37	27	53.1	3.53	0.00	0.5471	9.9932	9.9746	9.0291
95	5.5		40	12.61	1.161	- 0.001	55	24	47.1	3.50	- 0.01	0.5441	9.9933	0.0240	9.1575
6404	6.*		42	13.29	1.916	. . .	41	18	30.5	3.67	. . .	0.5650	9.9926	9.9889	9.0825
19	6.3		43	55.40	1.339	. . .	52	51	04.8	3.82	. . .	0.5820	9.9920	0.0189	9.1814
21	7.0		44	15.96	1.546	. . .	49	17	38.4	3.85	. . .	0.5853	9.9919	0.0116	9.1629
26	6.3		45	06.77	2.230	. . .	32	40	11.8	3.92	- 0.01	0.5935	9.9915	9.9516	9.0235
27	5.6		45	12.84	2.239	- 0.001	32	24	29.2	3.93	- 0.01	0.5944	9.9915	9.9503	9.0214
28	6.*		44	58.39	1.583	. . .	48	37	30.2	3.91	. . .	0.5921	9.9916	0.0098	9.1653
29	Var.	American Ephemeris star.													
52	6.*		48	47.04	1.349	. . .	52	48	50.9	4.21	+ 0.29	0.6270	9.9901	0.0174	9.2261
56	6.1		49	21.60	2.094	+ 0.001	36	48	59.2	4.28	- 0.02	0.6320	9.9898	9.9698	9.1075
63	4.3		49	21.28	0.877	+ 0.008	59	14	09.3	4.28	+ 0.01	0.6320	9.9898	0.0259	9.2639
66	4.5		50	07.90	2.099	. . .	36	44	27.8	4.35	. . .	0.6386	9.9895	9.9692	9.1133
68	6.*		50	17.76	2.198	. . .	33	48	36.0	4.37	- 0.03	0.6400	9.9895	9.9560	9.0832
70	5.*		50	07.63	1.485	. . .	50	33	12.9	4.35	. . .	0.6386	9.9895	0.0126	9.2242
73	6.0		50	51.92	1.919	. . .	41	26	37.5	4.41	. . .	0.6448	9.9892	9.9872	9.1635
75	Var.		51	31.87	1.822	+ 0.004	43	46	56.4	4.47	+ 0.08	0.6504	9.9889	9.9946	9.1883
76	6.*		51	29.41	1.588	. . .	48	42	13.9	4.47	- 0.12	0.6500	9.9889	0.0081	9.2237
77	6.3		51	36.10	1.039	. . .	57	19	41.8	4.48	. . .	0.6510	9.9889	0.0232	9.2740
80	6.7		52	20.44	2.234	+ 0.013	32	44	31.2	4.54	- 0.18	0.6570	9.9886	9.9503	9.0880
91	3.4*		54	16.07	2.243	+ 0.003	32	31	09.4	4.70	. . .	0.6724	9.9877	9.9486	9.1007
93	6.*		54	41.20	1.961	. . .	40	30	31.6	4.74	. . .	0.6757	9.9875	9.9828	9.1862
95	6.*		54	59.76	2.018	. . .	39	02	43.7	4.77	. . .	0.6781	9.9874	9.9772	9.1753
96	6.*		54	38.16	1.020	- 0.005	57	38	58.1	4.74	- 0.07	0.6753	9.9875	0.0224	9.2999
97	5.6*		55	17.94	2.261	+ 0.003	31	58	17.7	4.79	- 0.02	0.6805	9.9872	9.9456	9.1022
6500	6.6		55	24.69	0.990	. . .	58	03	12.4	4.80	. . .	0.6814	9.9872	0.0226	9.3079
16	7.2		57	41.25	1.640	. . .	47	51	29.2	4.99	. . .	0.6985	9.9861	0.0040	9.2664
20	5.*		57	54.02	1.695	. . .	46	45	30.4	5.01	- 0.09	0.7000	9.9860	0.0011	9.2603
22	6.*		58	14.88	1.190	- 0.004	55	28	45.4	5.04	- 0.05	0.7026	9.9858	0.0184	9.3163
30	6.3	18	59	10.46	1.412	. . .	52	04	49.1	5.12	. . .	0.7093	9.9854	0.0126	9.3041
34	6.0	19	00	12.14	2.278	. . .	31	33	32.4	5.21	. . .	0.7166	9.9848	9.9421	9.1332
51	5.4		02	06.58	1.349	- 0.003	53	12	18.5	5.37	- 0.01	0.7298	9.9838	0.0134	9.3312
53	5.6*		02	41.89	2.257	+ 0.009	32	18	22.0	5.42	+ 0.04	0.7338	9.9835	9.9451	9.1595
56	5.*		02	50.51	2.139	+ 0.001	35	54	19.0	5.43	- 0.01	0.7348	9.9835	9.9619	9.2008
66	7.4		05	21.60	1.533	. . .	50	09	45.8	5.64	. . .	0.7514	9.9821	0.0064	9.3345
67	7.3		05	58.83	2.288	. . .	31	25	54.6	5.69	. . .	0.7554	9.9817	9.9396	9.1705
71	6.*		06	58.33	2.300	. . .	31	04	34.0	5.78	+ 0.01	0.7617	9.9812	9.9375	9.1723
79	6.*		08	50.81	1.570	- 0.015	49	37	16.2	5.93	+ 0.62	0.7733	9.9801	0.0038	9.3530
81	4.5*		09	30.12	2.041	- 0.001	38	55	55.7	5.99	+ 0.04	0.7773	9.9797	9.9719	9.2740
83	5.5		09	18.69	1.133	+ 0.004	56	38	47.9	5.97	+ 0.03	0.7761	9.9798	0.0153	9.3958
93	7.0		11	34.00	1.998	. . .	40	08	30.9	6.16	. . .	0.7896	9.9785	9.9755	9.2968
99	4.5*		12	01.78	2.081	+ 0.001	37	54	42.5	6.20	- 0.01	0.7923	9.9782	9.9669	9.2786
6601	5.3		11	41.16	1.075	- 0.001	57	29	22.2	6.17	- 0.11	0.7903	9.9784	0.0152	9.4141
03	6.3		12	03.61	1.564	. . .	49	51	02.4	6.20	. . .	0.7925	9.9782	0.0029	9.3736
23	4.*		14	12.72	1.381	+ 0.004	53	08	18.2	6.38	+ 0.10	0.8048	9.9768	0.0081	9.4068
24	6.6		14	47.38	2.004	. . .	40	07	51.3	6.43	. . .	0.8081	9.9765	9.9741	9.3151
26	6.3		15	17.76	1.598	. . .	49	20	17.2	6.47	. . .	0.8109	9.9761	0.0003	9.3888
35	6.4		16	50.72	1.324	. . .	54	08	38.7	6.60	. . .	0.8194	9.9751	0.0084	9.4260
40	6.0		17	58.44	1.100	. . .	57	24	33.1	6.69	. . .	0.8255	9.9744	0.0120	9.4490
51	6.7		19	36.83	2.151	. . .	36	12	21.5	6.83	+ 0.05	0.8342	9.9733	9.9569	9.3034
56	6.*		19	59.40	1.894	. . .	43	08	44.3	6.86	. . .	0.8362	9.9730	9.9819	9.3690
59	6.6		20	07.03	1.573	. . .	50	01	39.1	6.87	. . .	0.8368	9.9729	9.9994	9.4191
67	5.*		21	38.99	2.159	. . .	36	04	06.0	6.99	. . .	0.8447	9.9718	9.9654	9.3125
81	6.5		23	31.06	1.090	. . .	57	46	33.2	7.15	. . .	0.8541	9.9705	0.0096	9.4793
87	6.		24	22.38	1.471	. . .	52	03	57.9	7.22	- 0.07	0.8583	9.9699	0.0011	9.4531
97	4.0		26	33.18	1.511	+ 0.001	51	27	50.7	7.39	+ 0.10	0.8689	9.9683	9.9989	9.4600
98	4.6		27	07.57	2.228	. . .	34	11	18.2	7.44	. . .	0.8716	9.9678	9.9448	9.3191
6711	6.6		29	15.10	2.088	. . .	38	29	25.8	7.61	. . .	0.8816	9.9662	9.9616	9.3735
12	6.4		29	03.49	1.065	- 0.062	58	19	58.5	7.60	- 0.39	0.8807	9.9664	0.0067	9.5085
17	6.5		30	15.06	1.651	. . .	48	59	27.3	7.69	. . .	0.8863	9.9654	9.9919	9.4618
18	6.*		30	36.67	1.955	. . .	42	08	23.8	7.72	. . .	0.8878	9.9651	9.9736	9.4123
20	6.8		30	46.67	1.894	. . .	43	40	18.0	7.74	. . .	0.8885	9.9650	9.9781	9.4256
21	6.5		31	06.52	1.707	. . .	47	53	35.6	7.76	. . .	0.8900	9.9647	9.9890	9.4582
22	6.*		31	18.82	2.154	+ 0.001	36	40	06.0	7.78	+ 0.01	0.8910	9.9646	9.9535	9.3649
23	6.*		31	05.46	1.550	. . .	50	58	09.2	7.76	- 0.19	0.8900	9.9647	9.9924	9.4781
28	6.9		32	33.62	1.907	. . .	43	25	37.7	7.88	. . .	0.8965	9.9636	9.9765	9.4316
30	7.0		32	34.92	1.608	+ 0.001	49	57	32.9	7.88	+ 0.05	0.8966	9.9636	9.9926	9.4784
31	6.*		32	45.42	1.867	- 0.010	44	25	12.1	7.90	. . .	0.8971	9.9634	9.9792	9.4403
34	5.4		33	05.29	1.611	- 0.002	49	55	56.2	7.92	+ 0.23	0.8989	9.9632	9.9922	9.4805
41	6.6		34	28.39	1.662	. . .	48	59	43.8	8.10	+ 0.13	0.9049	9.9620	9.9895	9.4805
45	6.0		35	22.37	1.950	+ 0.004	42	31	50.0	8.11	+ 0.04	0.9087	9.9613	9.9722	9.4365
48	6.*		35	52.56	1.347	. . .	54	40	49.9	8.15	. . .	0.9110	9.9608	9.9984	9.5205
54	5.5		36	58.81	1.842	+ 0.011	45	13	46.6	8.23	+ 0.11	0.9156	9.9599	9.9790	9.4647
6763	6.3	19	38	29.42	+ 1.611	- 0.021	50	14	08.9	+ 8.35	- 0.15	0.9219	9.9586	9.9896	9.5055

## CATALOGUE OF STARS.

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $a'$ .	Log $b'$ .	Log $c'$ .	Log $d'$ .
		h.	m.	s.	s.	s.	°	'	"	"	"				
6764	6.2	19	38	32.32	+ 1.612	- 0.003	50	13	41.6	+ 8.36	- 0.15	0.9221	9.9586	9.9896	9.5057
65	6.7		38	46.79	2.109	.	38	22	28.3	8.38	.	0.9231	9.9584	9.9563	9.4139
69	6.0		39	34.64	1.999	.	41	28	26.5	8.44	.	0.9264	9.9576	9.9665	9.4453
71	5.6		39	46.10	2.156	+ 0.007	37	03	11.9	8.46	+ 0.03	0.9272	9.9575	9.9507	9.4050
77	6.6		41	11.73	2.234	.	34	42	33.9	8.57	.	0.9329	9.9562	9.9403	9.3862
79	3.*		41	04.04	1.869	+ 0.005	44	49	35.5	8.56	+ 0.02	0.9324	9.9563	9.9723	9.4784
80	6.2		40	48.44	1.156	+ 0.001	57	43	09.4	8.54	.	0.9314	9.9566	9.9986	9.5563
84	5.6*		41	40.86	2.274	.	33	26	17.1	8.61	- 0.43	0.9349	9.9558	9.9348	9.3739
99	6.*		43	47.70	1.755	.	47	35	58.1	8.78	.	0.9432	9.9538	9.9807	9.5094
6800	6.9		44	04.36	2.287	.	33	07	32.7	8.80	.	0.9443	9.9536	9.9317	9.3797
06	6.8		45	02.06	2.121	+ 0.002	38	23	46.5	8.87	- 0.05	0.9480	9.9527	9.9528	9.4390
13	6.*		46	08.24	2.123	+ 0.001	38	24	06.8	8.96	+ 0.13	0.9522	9.9517	9.9522	9.4432
17	6.*		46	19.89	2.058	.	40	16	58.0	8.97	.	0.9529	9.9515	9.9586	9.4614
18	6.5		46	01.69	1.072	.	59	06	16.5	8.95	.	0.9518	9.9518	9.9959	9.5832
24	5.6*		47	29.43	1.507	- 0.004	52	40	16.8	9.06	- 0.08	0.9573	9.9504	9.9878	9.5556
30	6.*		48	26.18	1.768	.	47	36	35.8	9.14	.	0.9608	9.9495	9.9777	9.5270
47	5.6*		50	43.49	1.234	+ 0.002	57	11	45.7	9.32	- 0.02	0.9692	9.9472	9.9910	9.5916
49	5.6*		51	23.73	2.143	.	38	09	19.8	9.37	- 0.01	0.9716	9.9465	9.9481	9.4603
51	4.5*		51	36.93	2.252	- 0.003	34	45	08.6	9.39	- 0.02	0.9724	9.9463	9.9346	9.4261
52	5.8		51	20.86	1.074	.	59	22	42.0	9.36	.	0.9714	9.9466	9.9921	9.6040
56	5.*		52	23.84	1.536	- 0.003	52	06	28.3	9.45	- 0.01	0.9752	9.9455	9.9835	9.5702
57	5.8		52	53.27	2.082	.	40	01	58.2	9.48	.	0.9769	9.9450	9.9538	9.4831
60	6.8		53	00.31	2.147	.	38	07	22.4	9.49	.	0.9773	9.9449	9.9470	9.4657
63	6.3		52	53.18	1.192	.	57	55	14.9	9.48	.	0.9769	9.9450	9.9809	9.6028
65	6.*		53	19.90	1.640	.	50	34	01.5	9.52	.	0.9785	9.9446	9.9802	9.5642
67	5.1		53	32.20	1.151	.	58	30	45.6	9.53	.	0.9792	9.9444	9.9808	9.6079
75	5.8		55	20.13	2.198	.	36	42	04.6	9.67	+ 0.03	0.9854	9.9425	9.9402	9.4597
76	6.*		55	24.82	1.882	.	45	25	55.6	9.68	.	0.9857	9.9424	9.9678	9.5363
81	6.*		55	56.74	1.590	+ 0.006	51	42	49.8	9.72	.	0.9875	9.9419	9.9802	9.5802
95	5.1	19	57	49.35	1.696	+ 0.001	49	45	27.0	9.86	- 0.01	0.9939	9.9399	9.9754	9.5744
6915	5.5	20	01	43.14	2.245	- 0.019	35	37	45.2	10.16	- 0.42	1.0067	9.9356	9.9319	9.4699
18	6.*		01	43.28	1.623	.	51	28	52.6	10.11	.	1.0067	9.9356	9.9754	9.5980
24	6.5		02	30.96	1.367	.	55	58	45.9	10.22	.	1.0093	9.9347	9.9806	9.6256
28	5.9		02	56.38	1.558	+ 0.027	52	47	48.2	10.25	+ 0.24	1.0106	9.9343	9.9763	9.6096
37	5.*		04	47.20	2.226	.	36	28	22.4	10.39	+ 0.05	1.0165	9.9322	9.9334	9.4884
59	6.*		09	03.06	1.671	.	51	05	17.8	10.70	.	1.0295	9.9272	9.9687	9.6184
62	5.0		09	22.32	1.883	+ 0.003	46	26	18.0	10.73	- 0.02	1.0305	9.9268	9.9596	9.5885
63	6.4		09	30.37	2.018	.	43	00	02.0	10.74	.	1.0309	9.9266	9.9510	9.5625
65	4.*		09	41.71	1.888	.	46	21	46.8	10.75	.	1.0315	9.9264	9.9592	9.5889
67	5.*		09	51.14	2.239	+ 0.004	36	25	28.7	10.76	+ 0.09	1.0319	9.9262	9.9295	9.5034
69	7.0		09	59.22	2.240	+ 0.001	36	22	21.3	10.77	+ 0.05	1.0323	9.9260	9.9292	9.5033
76	4.5*		10	29.50	1.390	+ 0.010	56	11	08.3	10.81	+ 0.06	1.0338	9.9254	9.9737	9.6512
83	4.5*		11	36.42	1.852	+ 0.002	47	19	52.1	10.89	- 0.01	1.0371	9.9241	9.9607	9.6014
85	6.3		12	05.11	1.742	.	49	50	54.0	10.93	.	1.0385	9.9235	9.9641	9.6196
86	6.*		12	28.62	2.132	+ 0.011	39	58	44.7	10.95	- 0.02	1.0396	9.9230	9.9398	9.5454
90	5.*		13	10.77	2.208	.	37	38	42.8	11.01	- 0.01	1.0417	9.9221	9.9315	9.5254
96	6.3		13	41.40	2.123	+ 0.002	40	20	35.9	11.05	+ 0.01	1.0432	9.9215	9.9400	9.5522
97	6.*		13	47.66	2.242	+ 0.006	36	36	33.5	11.05	.	1.0434	9.9214	9.9273	9.5168
98	5.5*		13	51.09	2.302	+ 0.001	34	35	35.4	11.06	.	1.0436	9.9213	9.9195	9.4956
7001	7.		14	24.52	2.182	.	38	36	49.3	11.10	.	1.0452	9.9206	9.9339	9.5383
06	7.0		15	07.72	2.242	+ 0.003	36	44	23.6	11.15	+ 0.01	1.0472	9.9197	9.9268	9.5219
07	8.0		14	56.91	1.787	.	49	06	23.0	11.14	- 0.07	1.0468	9.9199	9.9603	9.6231
08	6.8		15	43.38	2.172	.	39	00	36.0	11.19	.	1.0489	9.9189	9.9342	9.5458
22	3.2*		17	44.52	2.151	+ 0.003	39	51	27.3	11.34	+ 0.02	1.0546	9.9163	9.9353	9.5592
27	6.*		18	19.12	2.127	.	40	37	39.5	11.38	.	1.0562	9.9156	9.9373	9.5680
29	5.*		18	52.12	2.390	+ 0.003	31	47	15.8	11.42	+ 0.01	1.0577	9.9149	9.9043	9.4771
35	6.7		19	47.36	1.548	.	54	16	13.1	11.49	.	1.0602	9.9136	9.9632	9.6674
41	6.9		21	04.64	2.082	.	42	11	47.5	11.51	.	1.0636	9.9119	9.9394	9.5887
48	7.3		21	33.85	2.157	.	39	59	34.3	11.61	.	1.0649	9.9113	9.9326	9.5708
55	7.3		22	18.10	1.559	.	54	16	31.4	11.67	.	1.0669	9.9103	9.9608	9.6742
60	6.1		22	29.47	1.249	.	59	11	30.6	11.68	.	1.0674	9.9100	9.9640	9.6992
61	6.*		22	56.42	2.222	- 0.001	38	01	50.9	11.71	- 0.04	1.0686	9.9094	9.9252	9.5561
62	6.0		23	13.07	1.825	+ 0.007	48	58	09.6	11.73	+ 0.03	1.0693	9.9090	9.9526	9.6448
64	6.*		23	22.13	1.451	.	56	13	37.2	11.74	.	1.0697	9.9088	9.9614	9.6873
73	6.*		24	34.31	2.286	+ 0.001	36	02	18.7	11.83	.	1.0729	9.9072	9.9170	9.5403
76	6.8		24	39.19	1.850	.	48	30	14.6	11.83	.	1.0731	9.9071	9.9504	9.6454
83	6.4		25	51.58	1.977	+ 0.010	45	30	17.7	11.92	+ 0.18	1.0762	9.9054	9.9434	9.6273
84	6.5		26	14.46	2.276	+ 0.003	36	30	56.6	11.95	.	1.0772	9.9048	9.9173	9.5495
85	5.*		26	11.36	1.856	+ 0.006	48	31	56.4	11.94	.	1.0770	9.9049	9.9490	9.6495
86	6.*		26	19.66	1.500	.	55	38	56.9	11.95	.	1.0774	9.9047	9.9580	9.6920
91	5.9		27	27.33	1.849	.	48	47	56.6	12.03	- 0.04	1.0802	9.9031	9.9483	9.6545
7100	6.5		28	31.24	2.085	.	42	45	58.5	12.10	.	1.0829	9.9016	9.9344	9.5126
01	7.0		28	32.94	2.143	.	41	02	48.8	12.11	.	1.0830	9.9016	9.9298	9.5982
03	5.6*		29	02.42	2.331	- 0.001	34	49	25.3	12.14	- 0.03	1.0842	9.9008	9.9088	9.5388
05	6.*		28	43.21	1.471	.	56	21	21.2	12.12	.	1.0834	9.9013	9.9560	9.7016
12	6.*		29	49.00	1.963	.	46	15	56.2	12.19	.	1.0862	9.8997	9.9413	9.6529
14	6.5		30	05.60	2.160	.	40	40	05.6	12.21	.	1.0868	9.8993	9.9274	9.5987
19	6.7		30	50.52	2.137	.	41	27	31.6	12.27	+ 0.05	1.0887	9.8992	9.9289	9.6074
20	6.3		31	11.91	1.747	.	51	25	25.0	12.29	.	1.0895	9.8977	9.9485	9.6805
31	6.2		32	26.77	2.436	- 0.004	31	08	12.5	12.38	- 0.05	1.0926	9.8959	9.8911	9.5040
7132	6.4	20	32	28.07	+ 2.437	- 0.004	31	05	15.2	+ 12.38	- 0.02	1.0926	9.8958	9.8909	9.5034

## CATALOGUE OF STARS.

7

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $\alpha'$ .	Log $\beta'$ .	Log $\epsilon'$ .	Log $\delta'$ .	
		h.	m.	s.	s.	s.	°	'	"	"	"					
7153	6.5	20	33	39.60	+ 1.704	.	52	32	13.5	+ 12.46	.	1.0955	9.8941	9.9474	9.6930	
58	6.0		34	58.80	2.192	.	40	08	19.0	12.55	.	1.0986	9.8921	9.9214	9.6058	
61	6.7		35	10.15	2.021	.	45	13	32.7	12.56	.	1.0991	9.8918	9.9340	9.6481	
64	6.*		35	59.03	2.425	+ 0.003	31	51	49.1	12.62	- 0.02	1.1010	9.8905	9.8914	9.5214	
66	6.5		35	46.18	1.554	.	55	33	53.8	12.60	.	1.1005	9.8909	9.9478	9.7147	
67	6.5		36	19.71	2.242	.	38	38	16.6	12.64	.	1.1018	9.8900	9.9157	9.5951	
71	2.1*		37	10.20	2.042	+ 0.001	44	50	03.6	12.70	0.00	1.1038	9.8887	9.9311	9.6498	
74	5.3		37	25.48	2.164	.	41	16	12.4	12.72	.	1.1043	9.8883	9.9223	9.6215	
76	6.*		37	38.52	1.278	.	60	03	13.1	12.73	.	1.1048	9.8880	9.9475	9.7404	
82	5.7		38	21.42	1.848	+ 0.006	49	53	30.3	12.78	- 0.02	1.1065	9.8868	9.9390	9.6879	
89	7.0		39	10.49	1.493	.	56	56	10.4	12.83	.	1.1084	9.8856	9.9448	9.7295	
94	4.5*		40	30.09	2.475	.	30	15	52.0	12.92	+ 0.04	1.1113	9.8835	9.8809	9.5116	
98	6.5		40	28.47	1.981	.	46	50	38.4	12.92	.	1.1113	9.8835	9.9318	9.6722	
7204	3.2*		41	09.24	2.396	+ 0.031	33	30	10.8	12.97	+ 0.33	1.1128	9.8824	9.8936	9.5527	
13	4.7		42	32.39	2.333	.	36	01	55.8	13.06	.	1.1159	9.8822	9.9027	9.5833	
15	4.5		42	15.14	1.499	.	57	07	55.1	13.04	- 0.19	1.1152	9.8806	9.9413	9.7374	
18	6.2		42	43.70	1.748	- 0.008	52	32	26.1	13.07	- 0.15	1.1163	9.8799	9.9374	9.7139	
19	7.0		43	03.48	2.054	.	45	07	17.5	13.09	.	1.1170	9.8793	9.9258	9.6653	
33	5.6		44	40.81	2.042	+ 0.001	45	39	03.5	13.20	- 0.02	1.1206	9.8767	9.9251	9.6728	
41	5.6*		45	38.55	2.117	+ 0.012	43	35	20.8	13.26	+ 0.12	1.1227	9.8750	9.9198	9.6590	
43	7.3		45	40.17	1.863	.	50	19	08.1	13.27	.	1.1227	9.8750	9.9315	9.7068	
53	5.6*		48	49.53	2.118	+ 0.001	43	54	53.1	13.47	+ 0.01	1.1294	9.8697	9.9172	9.6683	
54	6.*		48	56.52	2.091	.	44	42	32.7	13.48	.	1.1296	9.8695	9.9187	9.6748	
59	7.5		49	25.02	2.120	+ 0.002	43	54	45.0	13.51	+ 0.01	1.1307	9.8686	9.9165	9.6697	
60	6.8		49	42.16	2.236	.	40	13	40.9	13.53	.	1.1312	9.8682	9.9074	9.6392	
62	6.5		49	44.01	1.711	.	54	02	18.2	13.53	+ 0.19	1.1313	9.8681	9.9305	9.7373	
68	6.*		51	36.55	§2.023	.	46	56	21.3	§13.65	.	1.1352	9.8648	9.9198	9.6967	
73	6.7		52	10.25	2.113	.	44	26	41.1	13.69	.	1.1363	9.8638	9.9146	9.6794	
74	6.2		52	20.54	1.959	.	48	42	56.4	13.70	.	1.1366	9.8636	9.9218	9.7103	
77	4.*	American Nautical	Almanac	star.	.	.	.	.	.	.	.	1.1370	9.8632	9.9057	9.6490	
78	5.5		52	27.70	1.898	+ 0.010	50	14	57.0	13.70	.	1.1369	9.8633	9.9236	9.7205	
81	6.0		52	56.54	1.606	+ 0.003	56	24	23.9	13.73	- 0.02	1.1378	9.8625	9.9279	9.7563	
90	6.0		53	51.00	2.135	.	43	59	06.6	13.79	.	1.1397	9.8608	9.9118	9.6792	
94	6.0		54	29.70	1.919	.	49	58	37.6	13.84	.	1.1410	9.8597	9.9268	9.7229	
97	6.8		55	09.09	2.268	+ 0.030	39	45	51.9	13.87	+ 0.15	1.1423	9.8585	9.9005	9.6460	
7301	5.6*		55	34.46	2.037	- 0.005	47	02	01.2	13.90	- 0.02	1.1431	9.8577	9.9154	9.7053	
06	6.*		56	49.02	2.090	- 0.002	45	39	55.9	13.98	.	1.1455	9.8554	9.9117	9.6978	
10	5.6		56	20.42	1.482	.	58	57	03.0	14.01	.	1.1446	9.8563	9.9239	9.7753	
13	6.4		57	33.38	2.297	.	39	01	00.9	14.03	.	1.1470	9.8541	9.8959	9.6438	
17	6.8		57	56.18	2.140	.	44	17	54.7	14.05	.	1.1477	9.8534	9.9078	9.6896	
20	6.0		58	13.82	2.323	+ 0.001	38	09	51.9	14.07	+ 0.03	1.1483	9.8528	9.8929	9.6370	
26	7.0		59	11.31	2.242	.	41	08	06.7	14.13	.	1.1501	9.8510	9.8996	9.6661	
32	5.5		20	59	58.39	1.826	.	52	47	18.0	14.18	.	1.1516	9.8495	9.9168	9.7506
33	4.*		21	00	23.06	2.176	+ 0.002	43	25	47.5	14.20	- 0.01	1.1524	9.8487	9.9032	9.6875
36	.	American Nautical	Almanac.	.	.	.	.	.	.	.	.	1.1541	9.8470	9.8806	9.6426	
37	5.3		01	19.27	2.332	+ 0.355	38	08	00.4	14.26	+ 3.05	1.1541	9.8470	9.8895	9.6426	
45	5.6*		02	17.63	2.062	- 0.001	47	08	48.2	14.32	- 0.01	1.1559	9.8451	9.9076	9.7190	
65	6.		06	23.67	1.850	.	53	03	12.0	14.57	.	1.1634	9.8370	9.9084	9.7639	
73	6.5		08	25.01	2.407	.	36	07	05.6	14.69	.	1.1670	9.8329	9.8760	9.6353	
77	6.0		08	37.22	1.530	.	59	28	22.2	14.70	- 0.02	1.1674	9.8325	9.9064	9.8004	
83	7.0		09	31.07	2.294	.	40	37	43.3	14.76	.	1.1689	9.8307	9.8866	9.6805	
85	4.*		09	48.17	2.377	+ 0.018	37	30	45.0	14.77	+ 0.45	1.1694	9.8301	9.8785	9.6515	
87	7.5		09	36.29	1.530	.	59	34	56.8	14.76	.	1.1691	9.8305	9.9050	9.8026	
98	4.5		12	30.37	2.351	.	38	52	18.5	14.93	+ 0.03	1.1741	9.8244	9.8789	9.6696	
99	4.5*		12	46.74	2.462	+ 0.003	34	22	23.2	14.95	.	1.1746	9.8239	9.8660	9.6241	
7401	6.0		13	30.00	1.790	.	55	16	24.4	14.99	.	1.1758	9.8223	9.8993	9.7884	
02	5.*		13	47.38	2.230	- 0.002	43	25	14.0	15.01	- 0.02	1.1763	9.8217	9.8871	9.7113	
11	5.6		15	10.60	2.059	.	48	58	56.0	15.09	.	1.1786	9.8187	9.8931	9.7541	
17	6.0		15	48.09	1.661	.	58	05	42.7	15.12	.	1.1796	9.8174	9.8959	9.8063	
31	5.5		17	39.82	2.074	.	48	51	14.2	15.23	+ 0.08	1.1827	9.8133	9.8895	9.7573	
48	6.7		19	46.79	2.003	.	51	07	13.0	15.35	.	1.1861	9.8086	9.8886	9.7751	
53	6.*		20	40.54	2.446	- 0.001	36	07	41.1	15.40	- 0.02	1.1875	9.8065	9.8622	9.6559	
55	6.*		20	44.26	2.179	+ 0.015	46	10	24.6	15.40	+ 0.03	1.1876	9.8064	9.8822	9.7436	
62	5.0		22	15.56	2.440	.	36	34	27.1	15.49	.	1.1900	9.8029	9.8615	9.6630	
65	6.*		22	47.57	2.548	.	31	40	41.8	15.52	.	1.1908	9.8017	9.8463	9.6089	
68	5.8		22	37.63	1.972	.	52	21	22.0	15.51	.	1.1905	9.8021	9.8848	9.7870	
69	7.6		22	55.38	2.199	+ 0.005	45	52	22.8	15.52	.	1.1910	9.8014	9.8792	9.7448	
76	6.4		23	58.24	1.659	.	59	12	24.0	15.58	.	1.1926	9.7988	9.8823	9.8245	
77	7.0		24	30.75	2.267	.	43	47	30.3	15.61	.	1.1935	9.7976	9.8736	9.7315	
80	5.*		24	50.17	2.204	+ 0.003	45	59	24.3	15.63	+ 0.11	1.1939	9.7969	9.8762	9.7486	
83	6.		26	10.57	1.991	.	52	24	30.4	15.70	.	1.1960	9.			

§ Mädler's precessions are quite wrong.



No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $a'$ .	Log $b'$ .	Log $c'$ .	Log $d'$ .
		h.	m.	s.	s.	s.	°	'	"	"	"				
7524	6.4	21	32	44.23	+ 2.428	.	38	45	19.4	+ 16.05	.	1.2056	9.7776	9.8534	9.7000
30	6.5		33	29.07	1.994	.	53	28	46.0	16.09	.	1.2066	9.7757	9.8679	9.8095
44	5.2		35	16.80	2.343	+ 0.005	42	42	24.6	16.19	+ 0.02	1.2091	9.7711	9.8569	9.7384
45	6.2		35	05.02	1.859	.	56	55	26.7	16.17	.	1.2088	9.7716	9.8645	9.8299
48	7.0		35	40.55	2.162	.	49	06	58.3	16.21	.	1.2097	9.7701	9.8629	9.7860
54	6.3		36	32.64	2.408	+ 0.001	40	14	17.4	16.25	- 0.06	1.2109	9.7678	9.8510	9.7189
55	6.0		36	34.85	1.981	.	54	18	15.1	16.25	.	1.2110	9.7676	9.8626	9.8184
59	5.9		37	21.19	2.405	+ 0.001	40	30	25.6	16.29	.	1.2120	9.7657	9.8504	9.7224
60	5.1		37	39.45	2.123	- 0.001	50	37	11.1	16.31	.	1.2124	9.7648	9.8603	9.7984
65	5.1		38	05.11	2.406	.	40	35	03.5	16.33	+ 0.02	1.2130	9.7637	9.8495	9.7231
66	5.6*		38	15.39	2.472	+ 0.001	37	42	43.6	16.34	.	1.2132	9.7633	9.8438	9.6976
82	Var.		39	40.89	1.832	.	58	12	26.4	16.41	.	1.2151	9.7594	9.8556	9.8423
89	7.1		40	48.30	2.105	.	51	41	32.0	16.47	.	1.2166	9.7562	9.8553	9.8091
93	6.5		41	18.65	2.375	.	42	29	01.0	16.49	.	1.2172	9.7550	9.8477	9.7446
98	4.5*		42	10.58	2.209	+ 0.001	48	43	53.7	16.53	- 0.02	1.2184	9.7526	9.8521	9.7922
7602	7.7		43	08.09	2.476	.	38	22	35.7	16.58	.	1.2196	9.7500	9.8384	9.7103
05	6.		43	44.07	1.768	- 0.001	60	06	46.2	16.61	- 0.01	1.2204	9.7483	9.8463	9.8563
12	6.7		45	36.50	2.120	.	52	06	50.2	16.70	.	1.2228	9.7430	9.8471	9.8178
14	6.5		45	54.75	2.474	.	38	57	06.7	16.72	.	1.2232	9.7421	9.8354	9.7194
31	6.		47	47.60	2.023	+ 0.012	55	12	34.5	16.82	- 0.03	1.2255	9.7367	9.8423	9.8378
36	7.2		48	54.26	2.013	.	55	37	24.0	16.86	- 0.02	1.2269	9.7335	9.8400	9.8413
37	6.5		48	57.02	2.097	- 0.001	53	24	31.6	16.86	- 0.05	1.2269	9.7333	9.8408	9.8284
42	7.2		50	33.19	2.110	+ 0.021	53	20	27.0	16.94	+ 0.05	1.2288	9.7286	9.8379	9.8310
43	6.2		50	41.12	2.010	.	56	01	11.5	16.94	.	1.2290	9.7282	9.8363	9.8455
46	6.5		51	06.92	2.137	.	52	39	02.2	16.96	.	1.2295	9.7269	9.8370	9.8277
68	6.7		55	12.02	2.003	+ 0.010	57	03	37.4	17.15	- 0.02	1.2343	9.7144	9.8266	9.8560
76	5.3		57	15.74	2.189	.	52	16	48.1	17.25	.	1.2366	9.7078	9.8255	9.8337
79	6.8		57	36.39	2.454	.	42	12	41.6	17.26	.	1.2370	9.7067	9.8218	9.7622
81	6.0		57	54.10	2.414	.	44	02	53.0	17.27	.	1.2374	9.7058	9.8228	9.7774
83	6.*		57	52.46	2.009	- 0.003	57	23	51.7	17.27	- 0.01	1.2373	9.7059	9.8207	9.8607
95	6.5		59	59.16	2.364	.	46	37	36.0	17.37	.	1.2397	9.6990	9.8206	9.7990
96	6.*	21	59	49.61	1.948	+ 0.005	59	12	52.4	17.36	.	1.2395	9.6995	9.8144	9.8714
98	6.6	22	00	08.15	1.948	.	59	15	39.3	17.37	.	1.2398	9.6985	9.8136	9.8719
7705	4.7		00	58.29	2.421	.	44	24	25.6	17.41	.	1.2408	9.6958	9.8177	9.7836
18	6.7		02	57.10	2.016	.	58	13	52.5	17.49	.	1.2429	9.6891	9.8089	9.8702
21	5.7		03	41.36	2.656	- 0.003	32	33	45.4	17.52	.	1.2436	9.6866	9.7974	9.6722
27	6.9		03	44.37	2.367	.	47	19	21.0	17.53	.	1.2437	9.6865	9.8138	9.8089
31	3.8		04	26.18	2.659	.	32	33	55.0	17.56	.	1.2444	9.6841	9.7964	9.6733
36	6.5		04	21.86	2.009	.	58	40	52.4	17.55	.	1.2444	9.6843	9.8052	9.8733
37	7.6		04	34.89	2.476	.	42	34	24.5	17.56	.	1.2446	9.6836	9.8102	9.7727
38	8.0		04	45.04	2.030	.	58	14	21.0	17.57	.	1.2448	9.6830	9.8049	9.8722
43	6.7		05	51.97	2.487	.	42	24	59.3	17.62	.	1.2459	9.6791	9.8091	9.7648
46	6.0		06	18.60	2.307	+ 0.018	50	12	24.2	17.64	+ 0.06	1.2464	9.6776	9.8085	9.8298
49	4.3*		06	31.10	2.071	+ 0.002	57	35	07.6	17.64	- 0.01	1.2466	9.6768	9.8019	9.8709
53	5.8		07	16.02	2.645	.	33	59	21.9	17.68	.	1.2473	9.6742	9.7950	9.6926
54	6.0		07	18.11	2.127	+ 0.023	56	13	06.3	17.68	+ 0.15	1.2474	9.6741	9.8019	9.8649
55	5.6		07	16.28	2.029	+ 0.007	58	47	52.4	17.68	- 0.06	1.2474	9.6742	9.7921	9.8773
65	5.*		08	30.78	2.563	.	39	05	42.7	17.73	.	1.2486	9.6698	9.8004	9.7462
70	6.		09	29.21	2.506	.	42	20	04.7	17.77	.	1.2496	9.6663	9.8014	9.7757
77	4.8		10	31.38	2.606	- 0.004	37	07	36.7	17.81	+ 0.01	1.2506	9.6625	9.7948	9.7292
78	5.1		10	26.12	2.145	+ 0.056	56	25	14.5	17.80	+ 0.03	1.2505	9.6628	9.7947	9.8690
82	6.5		11	55.73	2.150	.	56	35	48.7	17.86	.	1.2520	9.6573	9.7910	9.8714
87	7.5		13	48.28	2.305	.	52	01	49.1	17.94	.	1.2538	9.6503	9.7919	9.8483
99	6.7		15	30.97	2.189	.	56	17	23.5	18.00	.	1.2554	9.6437	9.7832	9.8733
7800	5.0		15	51.77	2.405	.	45	54	27.4	18.02	.	1.2557	9.6424	9.7904	9.8098
03	8.0		16	41.66	2.526	.	43	06	57.6	18.05	.	1.2565	9.6391	9.7885	9.7890
12	6.7		18	23.54	2.200	.	56	39	09.6	18.11	.	1.2580	9.6324	9.7759	9.8777
13	7.2		18	25.42	2.242	.	55	19	52.7	18.11	.	1.2580	9.6323	9.7778	9.8710
15	4.5*		18	38.76	2.349	.	51	36	11.8	18.12	- 0.19	1.2582	9.6314	9.7817	9.8502
20	5.*		19	26.90	2.421	- 0.003	48	50	34.4	18.15	- 0.03	1.2589	9.6282	9.7820	9.8335
24	7.0		20	03.14	2.383	.	50	37	14.5	18.18	.	1.2595	9.6257	9.7794	9.8465
25	7.6		20	22.02	2.406	.	49	46	01.6	18.19	.	1.2598	9.6244	9.7794	9.8404
43	6.0		24	18.83	2.733	+ 0.002	31	56	00.4	18.33	- 0.01	1.2631	9.6080	9.7654	9.6844
45	5.*		24	19.32	2.489	- 0.002	47	04	02.5	18.33	- 0.01	1.2632	9.6079	9.7726	9.8256
46	6.5		24	28.72	2.337	.	53	36	22.8	18.34	.	1.2633	9.6073	9.7659	9.8669
47	7.5		24	30.98	2.213	+ 0.008	57	45	51.8	18.34	- 0.04	1.2633	9.6071	9.7587	9.8885
48	4.*		24	31.92	2.213	+ 0.002	57	46	32.3	18.34	- 0.02	1.2633	9.6070	9.7586	9.8885
50	5.*		25	05.57	2.578	- 0.002	42	28	59.1	18.36	.	1.2638	9.6046	9.7721	9.7912
55	4.*		26	08.61	2.445	+ 0.014	49	38	24.8	18.39	- 0.01	1.2647	9.6001	9.7667	9.8445
58	6.2		26	54.92	2.641	.	39	08	14.6	18.42	.	1.2653	9.5967	9.7678	9.7633
71	6.3		28	49.67	2.304	.	55	58	41.8	18.49	.	1.2668	9.5882	9.7512	9.8832
79	6.6*		30	18.55	2.658	.	38	58	51.3	18.54	- 0.14	1.2680	9.5814	9.7614	9.7646
80	6.1*		30	18.71	2.658	.	38	59	16.9	18.53	+ 0.01	1.2680	9.5814	9.7614	9.7646
82	6.3		30	41.93	2.478	.	49	25	25.6	18.55	.	1.2683	9.5796	9.7564	9.8467
88	5.*		32	14.52	2.456	- 0.003	50	54	00.5	18.60	- 0.12	1.2695	9.5724	9.7510	9.8572
94	6.8		32	53.01	2.583	.	44	32	01.7	18.62	.	1.2700	9.5694	9.7555	9.8138
01	5.*		33	39.25	2.681	+ 0.001	38	23	59.9	18.65	- 0.01	1.2706	9.5656	9.7547	9.7616
06	5.*		35	02.02	2.609	+ 0.006	43	37	27.1	18.69	.	1.2716	9.5591	9.7513	9.8082
13	7.3		35	42.68	2.601	.	44	21	20.7	18.71	.	1.2721	9.5557	9.7494	9.8145
15	5.3		35	53.01	2.674	+ 0.003	39	34	22.9	18.72	.	1.2722	9.5549	9.7506	9.7742
7917	6.1	22	36	00.72	+ 2.656	.	40	53	37.9	+ 18.72	.	1.2722	9.5543	9.7502	9.7861

§ Variable. ¶ Magnitudes from Radcliffe. Argelander gives 6\* (U. N.) and 5.7 (D. M.) for both, seen as one star.

## CATALOGUE OF STARS.

9

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $a'$ .	Log $b'$ .	Log $c'$ .	Log $d'$ .
		h.	m.	s.	s.	s.	°	'	"	"	"				
7931	6.3	22	38	26.78	+ 2.696	.	38	48	39.5	+ 18.80	.	1.2741	9.5420	9.7454	9.7690
32	6.*		38	31.15	2.664	.	41	09	49.4	18.80	+ 0.01	1.2741	9.5417	9.7449	9.7903
48	6.0		40	37.74	2.634	+ 0.015	43	53	15.8	18.86	+ 0.04	1.2756	9.5308	9.7388	9.8143
50	6.5		40	53.11	2.610	.	45	33	29.9	18.87	.	1.2757	9.5294	9.7367	9.8273
53	6.3		42	25.52	2.365	+ 0.006	57	49	25.4	18.91	.	1.2768	9.5212	9.7094	9.9022
61	5.9		44	36.81	2.449	.	55	14	23.3	18.98	.	1.2782	9.5092	9.7099	9.8907
62	6.*		44	43.64	2.692	.	41	17	31.0	18.98	- 0.01	1.2783	9.5086	9.7315	9.7966
72	6.*		46	23.91	2.682	+ 0.010	42	38	54.3	19.03	+ 0.01	1.2794	9.4992	9.7267	9.8081
78	6.7		47	28.76	2.728	.	39	30	13.6	19.06	.	1.2800	9.4930	9.7265	9.7814
83	6.		48	04.66	2.671	.	44	05	06.0	19.07	.	1.2804	9.4895	9.7213	9.8207
84	5.8		48	22.90	2.730	.	39	42	38.4	19.08	.	1.2806	9.4878	9.7245	9.7849
94	6.*		50	41.31	2.726	- 0.001	40	56	13.7	19.14	+ 0.01	1.2820	9.4740	9.7185	9.7962
95	4.6		50	57.39	2.614	.	49	03	59.3	19.15	.	1.2821	9.4720	9.7062	9.8582
99	6.		51	33.26	2.634	.	48	00	59.7	19.16	.	1.2825	9.4687	9.7067	9.8515
8013	6.5		54	01.98	2.436	.	59	08	43.3	19.23	.	1.2839	9.4531	9.6656	9.9155
23	4.3*		56	10.34	2.744	+ 0.002	41	39	15.9	19.28	- 0.03	1.2851	9.4392	9.7049	9.8055
24	6.1		56	13.86	2.517	+ 0.001	56	26	02.6	19.28	- 0.01	1.2851	9.4388	9.6710	9.8041
28	6.*		56	51.19	2.742	+ 0.003	42	05	08.1	19.30	- 0.03	1.2855	9.4346	9.7027	9.8095
33	6.7		58	13.66	2.460	.	59	46	21.6	19.33	.	1.2862	9.4253	9.6518	9.9206
36	5.6*	22	58	34.44	2.658	+ 0.016	49	22	22.3	19.34	+ 0.16	1.2864	9.4230	9.6844	9.8644
54	5.3	23	01	20.26	2.513	+ 0.005	58	44	39.2	19.40	- 0.02	1.2878	9.4034	9.6450	9.9175
56	6.5		01	35.14	2.729	+ 0.006	45	23	22.6	19.40	- 0.06	1.2879	9.4016	9.6850	9.8382
58	6.*		01	56.54	2.728	.	45	42	43.5	19.41	- 0.05	1.2881	9.3990	9.6834	9.8407
59	6.0		02	04.82	2.692	+ 0.013	48	36	54.1	19.41	+ 0.12	1.2881	9.3980	9.6763	9.8612
75	6.*		04	23.78	2.544	+ 0.005	58	39	17.0	19.46	.	1.2892	9.3807	9.6344	9.9186
76	6.0		04	40.80	2.774	- 0.021	42	52	23.2	19.47	.	1.2894	9.3785	9.6818	9.8200
82	5.*		06	49.61	2.721	+ 0.008	48	43	24.9	19.52	+ 0.08	1.2904	9.3616	9.6618	9.8642
83	6.*		07	16.30	2.611	+ 0.249	56	28	41.5	19.52	+ 0.27	1.2906	9.3581	9.6377	9.9094
8107	6.		11	00.64	2.701	+ 0.007	52	32	21.8	19.60	- 0.30	1.2922	9.3266	9.6358	9.8897
10	6.		11	23.78	2.795	.	44	29	04.5	19.60	.	1.2923	9.3231	9.6599	9.8357
14	5.6*		11	57.11	2.757	+ 0.003	48	19	56.7	19.61	.	1.2925	9.3183	9.6473	9.8637
15	6.5		12	04.14	2.795	.	44	48	24.6	19.62	.	1.2926	9.3172	9.6572	9.8384
18	6.*		12	27.70	2.831	- 0.003	41	05	28.1	19.62	- 0.02	1.2927	9.3137	9.6650	9.8083
25	6.*		13	40.56	2.774	+ 0.001	47	56	23.4	19.64	+ 0.06	1.2932	9.3026	9.6432	9.8617
26	6.5		13	49.64	2.777	+ 0.019	47	41	46.4	19.65	+ 0.03	1.2933	9.3013	9.6435	9.8601
28	5.9		13	55.60	2.836	+ 0.005	41	23	38.8	19.65	+ 0.03	1.2933	9.3003	9.6594	9.8115
35	6.3		14	49.34	2.823	.	43	26	00.0	19.66	.	1.2937	9.2919	9.6530	9.8288
36	6.*		14	51.41	2.870	+ 0.010	37	30	00.4	19.67	- 0.08	1.2937	9.2916	9.6659	9.7760
39	7.3		15	16.92	2.869	- 0.003	37	53	53.4	19.67	.	1.2938	9.2875	9.6642	9.7799
41	6.*		15	48.88	2.916	.	31	07	40.3	19.68	- 0.03	1.2940	9.2824	9.6725	9.7953
53	6.0		16	58.37	2.647	+ 0.001	59	26	54.0	19.70	- 0.01	1.2945	9.2710	9.5812	9.9274
56	6.7		17	39.12	2.918	+ 0.024	31	50	37.9	19.71	- 0.05	1.2947	9.2642	9.6680	9.7148
58	7.0		18	27.32	2.702	+ 0.004	56	50	58.5	19.72	.	1.2950	9.2559	9.5891	9.9157
59	6.*		18	43.78	2.923	.	31	41	54.7	19.73	.	1.2951	9.2531	9.6658	9.7134
71	6.*		21	06.12	2.866	+ 0.007	42	13	26.9	19.77	+ 0.03	1.2959	9.2277	9.6383	9.8211
88	5.*		24	15.92	2.741	.	57	51	35.6	19.81	.	1.2969	9.1911	9.5591	9.9225
95	6.*		25	08.74	2.910	+ 0.022	38	32	59.0	19.82	- 0.05	1.2971	9.1804	9.6372	9.7896
8206	6.*		27	45.18	2.960	+ 0.002	30	38	07.3	19.85	- 0.02	1.2977	9.1469	9.6482	9.7028
11	6.		28	27.70	2.953	+ 0.002	32	48	21.5	19.86	+ 0.04	1.2980	9.1372	9.6425	9.7297
12	6.*		28	30.77	2.920	- 0.002	39	32	51.5	19.86	- 0.03	1.2980	9.1366	9.6251	9.7998
23	6.3		31	25.67	2.911	.	43	44	16.8	19.90	.	1.2988	9.0946	9.6015	9.8363
24	4.*		31	27.04	2.900	+ 0.016	45	46	50.4	19.90	- 0.45	1.2988	9.0943	9.5929	9.8519
29	4.*		32	00.54	2.922	.	42	34	34.5	19.90	+ 0.03	1.2989	9.0858	9.6041	9.8270
31	5.7		33	05.07	2.886	- 0.002	49	46	46.9	19.92	- 0.01	1.2992	9.0688	9.5678	9.8798
37	4.*		34	15.23	2.928	+ 0.004	43	33	31.5	19.93	+ 0.01	1.2994	9.0496	9.5926	9.8362
45	6.5		36	05.68	2.934	.	44	17	58.3	19.94	.	1.2995	9.0175	9.5835	9.8417
52	6.5		37	00.68	2.897	.	52	27	32.9	19.95	- 0.02	1.3000	9.0005	9.5363	9.8970
61	5.*		39	50.62	2.951	.	45	43	35.0	19.98	- 0.02	1.3005	8.9437	9.5632	9.8532
68	5.*		40	57.20	2.893	+ 0.006	57	57	21.0	19.98	+ 0.06	1.3007	8.9191	9.4780	9.9267
80	6.5		42	46.68	2.902	.	59	17	01.1	19.99	.	1.3009	8.8750	9.4565	9.9331
82	6.8		43	03.98	2.912	+ 0.011	58	16	06.8	20.00	- 0.04	1.3010	8.8683	9.4639	9.9285
89	6.8		44	07.90	2.957	.	50	55	39.3	20.00	.	1.3011	8.8400	9.5143	9.8890
8307	7.0		47	17.95	2.980	.	50	49	37.2	20.02	.	1.3015	8.7434	9.5011	9.8888
10	5.*		48	08.72	2.965	.	56	48	13.7	20.03	- 0.01	1.3016	8.7135	9.4484	9.9220
16	6.5		49	14.52	2.991	.	52	02	19.7	20.03	.	1.3017	8.6713	9.4829	9.8963
17	7.5		49	18.36	2.976	.	56	42	58.8	20.03	.	1.3017	8.6689	9.4427	9.9217
22	6.*		50	50.79	2.994	- 0.004	55	00	37.0	20.04	- 0.02	1.3018	8.6013	9.4495	9.9131
26	6.7		51	47.79	3.015	.	49	44	35.5	20.04	+ 0.23	1.3019	8.5537	9.4881	9.8823
30	5.*		52	40.50	3.010	- 0.001	55	03	33.3	20.04	- 0.01	1.3019	8.5047	9.4389	9.9135
45	6.*		55	20.55	3.047	.	41	40	15.9	20.05	.	1.3021	8.3079	9.5284	9.8226
64	6.5		58	28.79	3.057	.	57	50	09.1	20.05	- 0.06	1.3021	7.8215	9.6414	9.9276
8372	6.5	23	59	44.02	+ 3.068	+ 0.034	57	44	22.6	+ 20.05	+ 0.05	1.3022	7.0650	9.5657	9.9272

§ Proper motion in right ascension doubtful; without it the right ascension for 1875.0 = 23<sup>h</sup> 43<sup>m</sup> 03<sup>s</sup>.75.

¶ This is Argelander's value reduced to Pulkowa; I am inclined to think that there is no proper motion, and that the declination should be 56° 48' 14".1.

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $\alpha'$ .	Log $\delta'$ .	Log $\epsilon'$ .	Log $\alpha''$ .
		h.	m.	s.	s.	s.	°	'	"	"	"				
7	2.3*	02	31.08		+ 3.095	+ 0.070	58	27	35.6	+ 20.05	- 0.20	1.3021	8.0408 n	9.3377	9.9305
13	7.7	03	33.77		3.092		45	41	43.7	20.05		1.3021	8.1916 n	9.4653	9.8546
16	5.6*	03	49.82		3.094	+ 0.003	45	22	35.3	20.05		1.3021	8.2230 n	9.4667	9.8523
18	7.3	04	01.52		3.110		58	58	39.1	20.05		1.3021	8.2442 n	9.3193	9.9329
26	6.*	07	01.66		3.106	- 0.010	40	20	43.2	20.05	- 0.13	1.3020	8.4864 n	9.4926	9.8110
51	6.0	10	33.64		3.138		47	15	09.3	20.03		1.3017	8.6634 n	9.4161	9.8654
52	4.5	10	33.87		3.119	- 0.005	37	59	15.7	20.03	- 0.02	1.3017	8.6635 n	9.4964	9.7888
54	6.5	11	05.92		3.135		50	44	18.8	20.03		1.3016	8.6850 n	9.3749	9.8884
58	4.5*	11	48.04		3.121	- 0.006	36	05	31.9	20.03	- 0.03	1.3016	8.7115 n	9.5056	9.7696
60	5.9	12	07.10		3.137	+ 0.001	43	05	48.7	20.02	+ 0.01	1.3015	8.7230 n	9.4483	9.8346
67	6.*	14	32.46		3.135		37	16	33.5	20.01		1.3013	8.8021 n	9.4869	9.7814
78	6.5	17	26.64		3.168		43	34	18.0	19.99		1.3009	8.8811 n	9.4182	9.8371
79	6.0	17	31.98		3.199		51	19	37.3	19.99		1.3009	8.8833 n	9.3252	9.8912
83	6.0	18	21.09		3.209		52	21	14.0	19.99	- 0.02	1.3008	8.9030 n	9.3047	9.8972
92	6.5	19	49.69		3.241		55	56	55.9	19.98	+ 0.02	1.3005	8.9365 n	9.2341	9.9165
100	5.5	21	30.69		3.191		43	42	11.0	19.96		1.3002	8.9713 n	9.3962	9.8375
20	6.0	24	47.47		3.164		32	53	29.2	19.93		1.2996	9.0333 n	9.4853	9.7323
21	5.*	24	53.07		3.269	+ 0.004	53	49	55.0	19.93	- 0.01	1.2996	9.0349 n	9.2258	9.9045
23	7.4	25	19.31		3.268		53	07	28.6	19.93		1.2995	9.0424 n	9.2360	9.9004
46	6.*	29	11.34		3.300	+ 0.002	53	28	45.3	19.89	- 0.01	1.2986	9.1039 n	9.1935	9.9015
48	6.0	29	21.77		3.362		59	38	14.5	19.89		1.2986	9.1065 n	9.0377	9.9324
52	5.4	29	59.27		3.238		43	47	55.0	19.88		1.2984	9.1155 n	9.3480	9.8364
53	4.*	30	00.81		3.296	+ 0.005	53	12	31.1	19.88	- 0.02	1.2984	9.1160 n	9.1911	9.8993
55	4.*	30	12.40		3.185		33	01	51.6	19.88	+ 0.01	1.2984	9.1187 n	9.4656	9.7327
58	6.*	30	39.76		3.195		34	42	41.4	19.87		1.2983	9.1252 n	9.4482	9.7516
65	6.0	32	15.77		3.284		48	40	01.5	19.85		1.2978	9.1461 n	9.2587	9.8712
66	3.4*	32	38.82		3.181	+ 0.011	30	10	35.2	19.85	- 0.09	1.2977	9.1522 n	9.4825	9.6969
69	Var.	American Nautical Almanac			Almanac	star.				19.84		1.2975	9.1624 n	9.0908	9.9132
73	5.*	34	20.92		3.231		38	46	20.5	19.83		1.2973	9.1741 n	9.3888	9.7918
80	6.*	35	05.92		3.312	- 0.001	49	49	36.3	19.82	+ 0.04	1.2970	9.1834 n	9.2131	9.8780
81	7.0	35	13.49		3.243	- 0.004	40	40	16.9	19.82	+ 0.02	1.2970	9.1850 n	9.3691	9.8030
82	6.5	35	20.29		3.400		58	04	03.9	19.81	- 0.01	1.2970	9.1863 n	8.9962	9.9236
89	6.*	36	33.47		3.293		46	20	25.8	19.80	- 0.03	1.2966	9.2010 n	9.2664	9.8539
97	5.8	37	30.12		3.306		47	10	43.0	19.78		1.2963	9.2119 n	9.2442	9.8595
98	5.*	37	45.93		3.311	+ 0.002	49	35	59.5	19.78		1.2962	9.2149 n	9.2342	9.8624
201	5.8	38	10.44		3.382		54	32	12.8	19.77		1.2961	9.2196 n	9.0668	9.9048
13	4.3*	41	32.83		3.444	+ 0.138	57	09	07.6	19.72	- 0.48	1.2950	9.2560 n	8.9236	9.9172
19	5.*	41	45.36		3.362	+ 0.002	50	17	09.0	19.72	- 0.03	1.2949	9.2581 n	9.1394	9.8788
21	4.5*	42	55.47		3.283	- 0.001	40	23	52.8	19.70	- 0.01	1.2945	9.2700 n	9.3218	9.8040
22	6.5	42	37.46		3.337		47	04	58.2	19.71		1.2946	9.2670 n	9.2042	9.8572
32	6.7	43	48.90		3.383	+ 0.018	50	49	37.1	19.69		1.2942	9.2787 n	9.1030	9.8815
35	6.7	44	26.42		3.388		50	53	27.8	19.68		1.2939	9.2849 n	9.0940	9.8816
44	5.0	47	35.57		3.517	- 0.006	58	17	41.4	19.62	- 0.07	1.2927	9.3146 n	8.7202	9.9204
45	6.5	47	59.52		3.380		48	00	01.4	19.62		1.2926	9.3178 n	9.1328	9.8615
54	5.0	49	14.30		3.536		58	30	20.4	19.59		1.2921	9.3288 n	8.6521	9.9217
55	6.3	49	15.83		3.559		59	41	07.6	19.59		1.2920	9.3290 n	8.5421	9.9260
59	4.*	49	49.10		3.295	+ 0.006	37	49	15.3	19.58	+ 0.04	1.2918	9.3338 n	9.3233	9.7773
83	6.0	55	53.02		3.348	- 0.005	40	40	22.5	19.46	+ 0.01	1.2891	9.3828 n	9.2318	9.8010
85	5.5	55	58.43		3.266	- 0.001	31	07	57.7	19.46	- 0.03	1.2891	9.3835 n	9.3918	9.7004
90	7.0	56	54.55		3.515	- 0.014	53	32	04.3	19.44	- 0.07	1.2886	9.3905 n	8.7790	9.8918
97	6.5	57	34.57		3.343		39	19	15.0	19.42		1.2883	9.3955 n	9.2508	9.7880
310	7.2	59	18.94		3.281	+ 0.003	31	30	43.6	19.38	- 0.01	1.2874	9.4081 n	9.3732	9.7035
14	6.*	00	57.98		3.552	+ 0.394	54	18	21.2	19.37	- 1.57	1.2871	9.4128 n	8.6339	9.8946
18	5.*	00	50.60		3.401	+ 0.013	43	16	31.1	19.35	- 0.08	1.2867	9.4189 n	9.1337	9.8205
21	6.9	01	06.51		3.284	+ 0.016	31	20	40.0	19.34	- 0.04	1.2865	9.4207 n	9.3682	9.7007
30	4.5*	02	15.04		3.450	- 0.005	46	34	28.5	19.32	- 0.01	1.2859	9.4286 n	9.0145	9.8449
34	2.3*	02	44.29		3.324	+ 0.018	34	57	26.6	19.31	- 0.14	1.2857	9.4319 n	9.3026	9.7416
37	6.*	03	13.19		3.392	- 0.013	41	24	57.5	19.29	- 0.04	1.2854	9.4352 n	9.1621	9.8038
39	4.5*	03	30.08		3.583	+ 0.025	54	29	02.6	19.29	- 0.05	1.2853	9.4370 n	8.4675	9.8938
43	6.*	04	09.15		3.350	- 0.001	37	03	30.9	19.27		1.2849	9.4413 n	9.2547	9.7628
45	5.	04	13.43		3.291	+ 0.001	30	45	33.6	19.27		1.2849	9.4418 n	9.3644	9.6915
52	6.5	05	20.17		3.443		44	40	18.3	19.24		1.2843	9.4491 n	9.0447	9.8291
57	7.3	05	56.29		3.303		31	24	42.0	19.23		1.2839	9.4530 n	9.3471	9.6988
77	7.0	09	18.65		3.433		42	16	47.4	19.14		1.2820	9.4740 n	9.0815	9.8077
90	7.9	12	00.97		3.721		57	32	59.9	19.07		1.2804	9.4901 n	8.4474 n	9.9045
91	5.*	12	14.00		3.724	+ 0.003	57	34	24.4	19.06	- 0.02	1.2802	9.4913 n	8.4622 n	9.9044
404	5.*	14	59.18		3.498	+ 0.001	44	52	22.7	18.99	- 0.03	1.2785	9.5070 n	8.9070	9.8249
09	6.*	16	31.91		3.402	+ 0.008	37	03	42.0	18.95	- 0.02	1.2775	9.5156 n	9.1724	9.7564
16	3.*	17	39.22		3.828	+ 0.040	59	35	04.8	18.91	- 0.04	1.2767	9.5216 n	8.8260 n	9.9103
25	6.0	18	57.89		3.489	+ 0.007	42	48	30.4	18.87	- 0.09	1.2758	9.5286 n	8.9483	9.8059
32	5.*	20	11.04		3.525	+ 0.033	44	45	37.4	18.84	- 0.10	1.2750	9.5350 n	8.8244	9.8205
41	6.*	22	36.70		3.565	- 0.001	46	21	41.5	18.76	- 0.06	1.2733	9.5474 n	8.6451	9.8307
56	6.0	25	46.64		3.872	- 0.004	58	35	21.0	18.66	- 0.05	1.2710	9.5630 n	8.9339 n	9.9000
65	6.*	27	03.87		3.439		36	35	44.3	18.62		1.2700	9.5692 n	9.1048	9.7432
74	6.4	28	40.27		3.634	- 0.001	48	05	00.1	18.57	- 0.03	1.2687	9.5774 n	7.9367	9.8382
80	4.5*	29	27.92		3.510	- 0.015	40	46	46.7	18.54	- 0.38	1.2682	9.5804 n	8.9031	9.7811
82	6.*	29	58.15		3.869		57	20	21.8	18.53		1.2678	9.5827 n	8.9441 n	9.8909
87	4.3*	30	19.61		3.641	+ 0.006	47	59	38.5	18.52	- 0.12	1.2675	9.5843 n	7.7009	9.8364
92	5.6*	31	51.57		3.570	- 0.001	43	44	57.2	18.46	- 0.02	1.2663	9.5912 n	8.6398	9.8039
501	6.0	33	09.99		3.558		42	39	52.9	18.42		1.2652	9.5970 n	8.7129	9.7941
502	5.*	33	12.46		+ 3.514		39	56	34.4	+ 18.42		1.2652	9.5972 n	8.8959	9.7706

## CATALOGUE OF STARS.

11

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $a'$ .	Log $\delta'$ .	Log $\epsilon'$ .	Log $d'$ .
		h.	m.	s.	s.	s.	°	'	"	"	"				
508	6.8	1	34	01.32	+ 3.924	+ 0.010	57	59	40.3	+ 18.39	— 0.01	1.2645	9.6008 n	9.0345 n	9.8908
09	7.0		34	11.04	3.993	.	59	54	56.2	18.38	.	1.2644	9.6015 n	9.1078 n	9.8994
10	6.*		34	10.97	3.552	.	41	59	08.4	18.38	.	1.2644	9.6014 n	8.7428	9.7877
15	6.*		34	53.14	3.999	+ 0.008	59	55	10.4	18.36	— 0.04	1.2638	9.6045 n	9.1160 n	9.8989
16	6.0		34	50.19	3.442	.	34	36	50.7	18.36	.	1.2639	9.6043 n	9.1096	9.7160
22	4.*		35	50.07	3.719	+ 0.006	50	03	28.7	18.32	— 0.03	1.2630	9.6086 n	8.5156 n	9.8455
25	6.4		36	03.25	3.905	.	56	54	26.7	18.32	.	1.2628	9.6095 n	9.0171 n	9.8838
40	6.0		40	08.00	3.640	.	45	36	22.7	18.17	.	1.2593	9.6265 n	7.0715	9.8112
44	6.0		41	16.36	3.507	.	37	19	46.0	18.13	.	1.2583	9.6311 n	8.9329	9.7389
47	6.2		41	30.41	3.692	.	47	16	24.0	18.12	.	1.2581	9.6320 n	8.3101 n	9.8220
55	6.3		42	57.39	3.796	.	51	19	00.7	18.06	.	1.2568	9.6378 n	8.8313 n	9.8471
58	6.*		43	47.33	3.892	+ 0.002	54	31	56.8	18.03	— 0.06	1.2560	9.6410 n	9.0193 n	9.8647
60	6.*		44	12.88	3.775	+ 0.001	50	10	25.0	18.01	— 0.04	1.2556	9.6427 n	8.7740 n	9.8388
62	6.6		44	51.79	3.795	— 0.002	50	51	22.6	17.99	.	1.2550	9.6452 n	8.8368 n	9.8425
66	6.*		45	47.80	3.572	— 0.002	40	06	42.7	17.95	— 0.01	1.2541	9.6488 n	8.6519	9.7611
75	6.0		47	22.90	3.579	— 0.001	40	05	20.5	17.89	— 0.03	1.2526	9.6548 n	8.6136	9.7594
76	6.4		47	34.71	3.519	.	36	30	46.5	17.88	.	1.2524	9.6555 n	8.9008	9.7248
79	5.8		48	31.00	3.525	+ 0.002	36	39	49.7	17.84	.	1.2515	9.6590 n	8.8795	9.7254
80	5.8		48	44.01	3.525	+ 0.014	36	38	15.5	17.84	+ 0.01	1.2513	9.6598 n	8.8782	9.7249
87	6.8		50	10.03	3.722	.	46	29	02.6	17.78	.	1.2499	9.6550 n	8.5630 n	9.8032
92	6.*		50	37.54	3.775	+ 0.002	48	35	30.6	17.76	.	1.2495	9.6667 n	8.7865 n	9.8224
614	5.6*		3	59.26	3.945	+ 0.003	53	52	53.8	17.63	— 0.03	1.2461	9.6786 n	9.1127 n	9.8512
24	5.6*		55	40.14	3.486	+ 0.003	32	40	50.9	17.55	+ 0.01	1.2443	9.6844 n	9.0175	9.6745
28	2.3*		56	13.88	3.650	+ 0.001	41	43	43.5	17.53	— 0.05	1.2437	9.6864 n	6.7236	9.7643
46	6.5	1	59	57.72	4.133	— 0.005	57	49	38.6	17.37	— 0.01	1.2397	9.6988 n	9.2834 n	9.8652
649	5.*	2	00	56.88	+ 3.583	+ 0.011	37	15	53.8	+ 17.32	— 0.05	1.2386	9.7021 n	8.5977	9.7186



## DECLINATIONS

OF

## ADDITIONAL STARS BETWEEN 30° AND 60° NORTH DECLINATION.

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log <i>a</i> .	Log <i>b</i> .	Log <i>c</i> .	Log <i>d</i> .
		h.	m.	s.	s.	s.	°	'	"	"	"				
Gr. 1854	7.0	12	03	08	+	3.1	39	19	49.3	-	20.05	1.3021 n	8.1355	9.5369	9.8099 n
Gr. 1867	6.5		14	0		3.0	38	35	47.9		20.02	1.3014 n	8.7856	9.5766	9.7943 n
Gr. 1894	6.5		21	25		3.0	42	02	51.5		19.96	1.3003 n	8.9700	9.5851	9.8240 n
Gr. 1903	6.5		24	53		2.9	53	45	41.6		19.93	1.2996 n	9.0349	9.5364	9.9041 n
Gr. 1907	7.0		29	43		2.9	40	22	24.1		19.88	1.2985 n	9.1117	9.6174	9.8078 n
Arg. 124	7.2		38	34		2.8	52	27	01.2		19.77	1.2960 n	9.2240	9.5990	9.8930 n
Gr. 1925	6.5		42	05		2.8	50	50	24.0		19.72	1.2948 n	9.2615	9.6187	9.8822 n
Gr. 1938	6.5	12	50	52		2.8	44	13	43.4		19.56	1.2914 n	9.3427	9.6669	9.8328 n
Gr. 1979	6.8	13	15	31		2.7	38	30	45.7		18.97	1.2782 n	9.5099	9.7332	9.7702 n
XIII, 71	6.4		16	36		2.6	44	33	27.3		18.94	1.2774 n	9.5159	9.7318	9.8214 n
Gr. 1991	6.0		20	55		2.6	46	40	45.4		18.82	1.2745 n	9.5388	9.7397	9.8342 n
Gr. 1994	6.2		22	55		2.7	41	22	48.7		18.75	1.2731 n	9.5490	9.7478	9.7912 n
Gr. 2030	6.1		35	47		2.2	57	50	23.0		18.33	1.2631 n	9.6084	9.7593	9.8886 n
Gr. 2032	6.0		37	09		2.6	42	18	17.6		18.28	1.2619 n	9.6142	9.7765	9.7858 n
XIII, 189	6.2		39	04		2.3	52	41	36.5		18.21	1.2603 n	9.6221	9.7754	9.8587 n
Arg. 142	7.0		40	36		2.2	56	31	08.4		18.15	1.2589 n	9.6284	9.7737	9.8779 n
Gr. 2056	6.5		46	10		2.1	59	09	30.7		17.94	1.2538 n	9.6502	9.7825	9.8854 n
Gr. 2057	6.7		47	51		2.5	40	57	17.8		17.87	1.2522 n	9.6565	9.7958	9.7666 n
Gr. 2058	6.7		48	08		2.5	42	48	03.0		17.87	1.2520 n	9.6576	9.7974	9.7820 n
XIII, 289	6.0	13	57	14		2.4	46	21	36.1		17.49	1.2427 n	9.6898	9.8154	9.8001 n
Gr. 2077	7.0	14	02	16		2.4	42	41	40.4		17.27	1.2372 n	9.7063	9.8220	9.7663 n
Gr. 2082	6.0		04	54		1.9	59	55	49.0		17.15	1.2342 n	9.7147	9.8235	9.8692 n
Gr. 2084	6.5		07	04		1.9	59	08	22.6		17.05	1.2317 n	9.7214	9.8390	9.8532 n
Gr. 2102	6.5		14	47		2.0	55	26	21.6		16.68	1.2223 n	9.7441	9.8470	9.8358 n
Gr. 2157	6.3	14	45	29		1.9	51	53	33.9		15.05	1.1775 n	9.8202	9.8666	9.7312 n
Gr. 2202	7.0	15	08	41		1.9	49	02	51.1		13.63	1.1346 n	9.8653	9.9235	9.7105 n
XV, 39	6.3		12	02		1.8	51	24	06.3		13.41	1.1275 n	9.8711	9.9302	9.7184 n
Arg. 164	7.0		15	30		2.2	41	25	50.2		13.19	1.1202 n	9.8769	9.9158	9.6387 n
Gr. 2227	7.0		19	48		2.3	37	47	13.1		12.90	1.1107 n	9.8839	9.9098	9.5958 n
XV, 81	6.0		21	24		2.4	34	46	18.0		12.80	1.1071 n	9.8865	9.9006	9.5610 n
Gr. 2232	6.8		21	42		2.0	44	44	25.6		12.78	1.1064 n	9.8869	9.9297	9.6516 n
Gr. 2237	7.0		23	52		2.2	39	09	23.5		12.63	1.1013 n	9.8903	9.9175	9.5995 n
Arg. 167	7.0		25	59		1.4	57	52	09.0		12.48	1.0964 n	9.8935	9.9511	9.7220 n
R. C. 3416	7.3		31	37		2.2	40	12	54.0		12.10	1.0826 n	9.9018	9.9276	9.5904 n
Gr. 2260	6.0		34	20		1.5	54	55	07.8		11.90	1.0757 n	9.9056	9.9580	9.6865 n
R. C. 3453	6.5	15	43	36		1.4	55	51	28.0		11.24	1.0508 n	9.9181	9.9680	9.6665 n
Gr. 2325	7.0	16	12	44		1.5	53	32	57.1		9.05	0.9564 n	9.9506	9.9893	9.5597 n
Gr. 2351	6.2		25	32		1.5	51	40	54.3		8.03	0.9049 n	9.9620	9.9947	9.4974 n
Gr. 2354	7.1		26	44		1.7	48	13	56.9		7.94	0.8997 n	9.9630	9.9886	9.4702 n
R. C. 3604	6.7		43	04		1.2	55	32	27.2		6.61	0.8200 n	9.9750	0.0105	9.4340 n
Gr. 2389	6.8		49	35		1.9	43	02	28.5		6.06	0.7828 n	9.9792	9.9857	9.3147 n
Arg. 185	6.6	16	59	05		1.7	47	12	47.8		5.27	0.7216 n	9.9845	0.0013	9.2852 n
Gr. 2431	6.0	17	14	11		2.0	38	56	24.4		3.98	0.6000 n	9.9913	9.9793	9.0962 n
Gr. 2436	6.7		19	50		2.0	38	41	46.8		3.50	0.5436 n	9.9933	9.9797	9.0375 n
Gr. 2464	6.0		41	44		2.0	38	55	55.2		1.60	0.2032 n	9.9986	9.9841	8.6993 n
Gr. 2473	6.7		47	11		1.9	40	06	17.3		1.12	0.0498 n	9.9993	9.9890	8.5566 n
Gr. 2481	6.4		48	33		1.7	46	40	40.3		1.00	0.0005 n	9.9995	0.0104	8.5602 n
Gr. 2494	6.4		55	18		1.7	45	29	02.5		0.41	9.6140 n	9.9999	0.0074	8.1650 n
XVII, 347	5.5		56	02		2.2	33	13	10.8		0.35	9.5404 n	9.9999	9.9594	7.9748 n
R. C. 3820	6.8	17	57	47		1.6	48	28	00.6		0.19	9.2841 n	0.0000	0.0154	7.8562 n
R. 6227	7.3	18	00	36		1.7	46	26	01.1	+	0.05	8.7201	0.0000	0.0101	7.2780
R. 6264	7.2		03	09		1.7	46	15	31.6		0.28	9.4403	0.0000	0.0097	7.9970
R. 6308	6.1		07	11		2.2	33	25	04.8		0.63	9.7983	9.9998	9.9603	8.2371
Gr. 2536	6.7		11	45		1.5	49	06	51.2		1.01	0.0119	9.9994	0.0166	8.5883
Gr. 2563	6.7		20	19		1.9	42	24	01.6		1.75	0.2493	9.9983	9.9965	8.7760
Arg. LXIII	5.5		28	03		2.3	30	27	42.4		2.45	0.3888	9.9967	9.9431	8.7916
Gr. 2597	6.8		28	47		1.7	45	40	54.5		2.51	0.4000	9.9966	0.0056	8.9524
Gr. 2603	6.5		30	16		1.7	46	07	18.2		2.64	0.4217	9.9962	0.0066	8.9773
Gr. 2615	7.3		32	05		1.8	42	57	10.4		2.80	0.4469	9.9957	9.9966	8.9779
Gr. 2632	6.8		36	00		1.4	52	13	51.4		3.14	0.4965	9.9946	0.0197	9.0922
Gr. 2644	6.5		39	06		2.0	39	10	32.7		3.40	0.5321	9.9937	9.9818	9.0304
Gr. 2646	6.8		39	15		1.8	44	48	08.2		3.42	0.5337	9.9936	0.0010	9.0795
Gr. 2659	6.0		40	49		1.3	53	44	40.6		3.55	0.5505	9.9931	0.0212	9.1549
Gr. 2669	6.1	18	43	26	+	1.7	46	10	43.9	+	3.78	0.5772	9.9922	0.0039	9.1332

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $a'$ .	Log $b'$ .	Log $c'$ .	Log $d'$ .
		h.	m.	s.	s.	s.	°	'	"	"	"				
Gr. 2687 . . .	7.2	18	46	56	+ 1.8	.	43	48	33.6	+ 4.08	.	0.6105	9.9908	9.9960	9.1486
Gr. 2693 . . .	6.5		48	06	1.9	.	41	13	56.2	4.18	.	0.6210	9.9904	9.9872	9.1378
Gr. 2701 . . .	7.0		49	35	1.9	.	42	44	51.0	4.30	.	0.6339	9.9898	9.9919	9.1635
Gr. 2770 . . .	7.0	19	03	32	2.0	.	38	43	52.4	5.49	.	0.7394	9.9831	9.9732	9.2336
Gr. 2774 . . .	6.9		03	59	2.0	.	38	57	24.6	5.53	.	0.7424	9.9828	9.9740	9.2387
R. 7219 . . .	7.0		07	30	1.0	.	58	04	02.9	5.82	.	0.7650	9.9809	0.0177	9.3915
Gr. 2829 . . .	7.1		18	34	1.5	.	52	08	12.1	6.74	.	0.8287	9.9740	0.0043	9.4239
Gr. 2833 . . .	7.5		19	09	1.1	.	57	31	34.5	6.79	.	0.8317	9.9736	0.0115	9.4557
Gr. 2844 . . .	6.2		22	08	1.8	.	44	41	04.6	7.03	.	0.8472	9.9715	9.9854	9.3922
Gr. 2845 . . .	6.8		22	12	1.8	.	44	45	46.8	7.04	.	0.8475	9.9714	9.9855	9.3928
XIX, 193 . .	6.3		28	35	1.3	.	55	27	58.4	7.56	.	0.8784	9.9667	0.0039	9.4921
Gr. 2872 . . .	6.6		28	45	1.3	.	54	59	34.9	7.57	+ 0.11	0.8792	9.9666	0.0032	9.4904
R. C. 4379 . .	6.2		31	12	0.9	.	59	53	09.5	7.77	.	0.8905	9.9647	0.0065	9.5253
Gr. 2912 . . .	6.2		37	41	2.0	.	39	57	33.6	8.29	.	0.9186	9.9593	9.9625	9.4241
Gr. 2946 . . .	7.0		44	54	1.3	.	56	36	06.7	8.86	- 0.10	0.9475	9.9528	9.9947	9.5670
$\chi$ Cygni . .	Var.		45	46	2.3	.	32	35	58.0	8.92	.	0.9508	9.9520	9.9284	9.3800
Gr. 2957 . . .	6.2		47	35	1.8	.	47	03	23.4	9.07	.	0.9577	9.9503	9.9770	9.5200
Gr. 2978 . . .	7.5		50	44	1.2	.	57	50	21.8	9.32	.	0.9692	9.9472	9.9915	9.5947
R. C. 4507 . .	6.8		51	20	2.1	.	39	50	30.6	9.36	.	0.9714	9.9466	9.9541	9.4758
Gr. 2977 . . .	6.7		51	21	1.8	.	47	12	37.2	9.36	.	0.9714	9.9466	9.9748	9.5349
R. C. 4521 . .	6.5		52	36	1.1	.	59	16	11.3	9.46	.	0.9759	9.9453	9.9911	9.6080
XIX, 370 . .	6.3		53	36	1.3	.	56	21	05.8	9.54	.	0.9795	9.9443	9.9580	9.5977
Gr. 3011 . . .	7.5		56	27	1.2	.	57	28	02.6	9.76	.	0.9893	9.9413	9.9667	9.6130
Gr. 3013 . . .	7.0		57	31	2.1	.	40	30	41.8	9.84	.	0.9929	9.9402	9.9523	9.5034
Gr. 3014 . . .	6.8	19	57	42	2.0	.	43	46	21.5	9.85	.	0.9935	9.9400	9.9618	9.5313
R. C. 4661 . .	7.5	20	09	43	1.9	.	46	20	00.3	10.75	.	1.0315	9.9264	9.9591	9.5887
Gr. 3110 . . .	6.2		11	57	1.9	.	45	11	52.2	10.92	.	1.0382	9.9236	9.9546	9.5870
Gr. 3142 . . .	6.0		15	19	1.5	.	55	00	25.1	11.16	.	1.0478	9.9194	9.9682	9.6590
Gr. 3215 . . .	6.7		28	27	2.1	.	41	27	25.7	12.10	+ 0.43	1.0828	9.9017	9.9310	9.6015
Gr. 3220 . . .	6.2		29	21	2.1	.	41	20	50.4	12.16	- 0.10	1.0850	9.9004	9.9299	9.6023
R. C. 4871 . .	7.2		30	28	2.1	.	41	17	15.9	12.24	.	1.0878	9.8988	9.9237	9.6050
Gr. 3243 . . .	7.2		33	33	2.1	.	42	24	08.2	12.45	+ 0.20	1.0952	9.8942	9.9289	9.6219
Gr. 3311 . . .	6.8		47	20	1.8	.	51	55	36.8	13.37	.	1.1262	9.8722	9.9315	9.7201
Gr. 3328 . . .	7.0		49	25	1.5	.	58	10	59.7	13.51	.	1.1306	9.8686	9.9328	9.7578
Gr. 3327 . . .	7.0		49	50	1.9	.	49	03	33.2	13.54	.	1.1315	9.8679	9.9251	9.7075
XX, 401 . . .	6.7	20	51	32	2.1	.	43	53	42.6	13.65	.	1.1350	9.8650	9.9143	9.6738
Gr. 3387 . . .	6.9	21	00	16	1.7	.	54	44	01.4	14.20	.	1.1522	9.8490	9.9176	9.7619
Fed. 3689 . .	7.0		01	33	1.4	.	59	45	32.3	14.28	.	1.1546	9.8465	9.9166	9.7889
R. C. 5132 . .	7.0		06	11	2.1	.	47	10	56.5	14.56	.	1.1630	9.8375	9.9028	9.7263
Gr. 3424 . . .	6.4		12	39	2.3	.	42	09	37.9	14.94	.	1.1744	9.8241	9.8861	9.6990
Gr. 3447 . . .	7.0		18	09	2.1	.	48	57	27.6	15.26	.	1.1834	9.8122	9.8890	9.7588
XXI, 159 . .	7.1		23	19	2.2	.	46	01	03.0	15.55	.	1.1916	9.8005	9.8784	9.7465
R. C. 5252 . .	6.7		25	00	2.2	.	45	52	43.8	15.64	.	1.1942	9.7965	9.8760	9.7481
D. M. + 50° 33' 2"	7.1		32	54	2.1	.	50	30	09.6	16.06	.	1.2058	9.7772	9.8660	9.7910
Gr. 3524 . . .	6.7		34	00	2.1	.	49	13	55.7	16.12	.	1.2073	9.7744	9.8656	9.7845
Gr. 3533 . . .	7.3		34	59	2.1	.	51	47	49.7	16.17	.	1.2087	9.7719	9.8652	9.8018
Gr. 3550 . . .	6.9		36	51	1.8	.	59	11	01.7	16.27	.	1.2113	9.7670	9.8600	9.8430
Gr. 3554 . . .	7.1		37	44	2.1	.	51	43	16.9	16.31	.	1.2125	9.7647	9.8606	9.8052
Gr. 3556 . . .	6.4		38	06	2.2	.	49	01	46.9	16.33	.	1.2130	9.7637	9.8590	9.7883
R. 9430 . . .	7.2		38	26	2.5	.	37	44	01.5	16.35	.	1.2135	9.7623	9.8437	9.6982
R. C. 5408 . .	6.2		44	35	2.4	.	40	33	59.8	16.65	.	1.2215	9.7459	9.8400	9.7325
Gr. 3601 . . .	7.0		48	13	2.1	.	54	27	07.6	16.83	.	1.2260	9.7355	9.8417	9.8343
R. C. 5476 . .	6.9	21	52	11	2.3	.	45	59	52.5	17.01	.	1.2308	9.7236	9.8339	9.7855
Gr. 3680 . . .	6.5	22	00	57	2.3	.	47	37	25.2	17.41	.	1.2407	9.6958	9.8190	9.8070
Gr. 3715 . . .	6.3		07	38	2.0	.	58	27	50.2	17.69	.	1.2477	9.6729	9.7982	9.8762
Gr. 3717 . . .	6.0		08	41	2.4	.	44	49	16.4	17.73	.	1.2488	9.6692	9.8040	9.7947
R. C. 5653 . .	6.8		15	06	2.1	.	59	31	13.5	17.99	.	1.2550	9.6453	9.7788	9.8582
Gr. 3750 . . .	6.5		16	30	2.6	.	41	26	54.5	18.04	.	1.2563	9.6399	9.7882	9.7749
Gr. 3771 . . .	7.1		20	55	2.3	.	53	10	51.2	18.21	.	1.2602	9.6222	9.7749	9.8614
Gr. 3772 . . .	7.1		21	02	2.3	.	53	18	34.3	18.21	.	1.2603	9.6217	9.7744	9.8623
Ll. 43886 . .	6.0		21	58	2.6	.	39	10	25.0	18.24	.	1.2612	9.6179	9.7770	9.7595
XXII, 113 . .	6.2		22	03	2.7	.	31	12	06.2	18.25	.	1.2612	9.6175	9.7678	9.6734
Gr. 3779 . . .	7.3		22	43	2.4	.	50	51	20.7	18.27	.	1.2618	9.6147	9.7733	9.8493
Gr. 3780 . . .	7.0		22	54	2.4	.	50	56	18.3	18.28	.	1.2620	9.6140	9.7728	9.8499
Gr. 3843 . . .	6.7		33	18	2.6	.	43	39	41.9	18.63	.	1.2703	9.5674	9.7550	9.8072
Gr. 3849 . . .	7.2		34	31	2.6	.	40	39	46.5	18.67	.	1.2712	9.5616	9.7532	9.7830
Gr. 3807 . . .	7.5		38	10	2.6	.	43	52	31.9	18.79	.	1.2739	9.5435	9.7443	9.8125
Gr. 3873 . . .	7.0		39	13	2.7	.	38	32	45.0	18.82	.	1.2746	9.5381	9.7438	9.7669
Gr. 3877 . . .	7.0		39	37	2.5	.	51	51	36.5	18.83	.	1.2749	9.5361	9.7310	9.8634
Gr. 3901 . . .	6.7		44	48	2.6	.	50	00	55.2	18.98	.	1.2784	9.5082	9.7208	9.8605
Ll. 44750 . .	7.0		45	47	2.6	.	48	04	14.9	19.01	.	1.2790	9.5027	9.7215	9.8433
Gr. 3913 . . .	7.4		47	15	2.6	.	50	02	29.3	19.05	.	1.2799	9.4943	9.7143	9.8623
Gr. 3936 . . .	6.5		51	54	2.8	.	38	38	28.1	19.17	.	1.2827	9.4665	9.7175	9.7760
Gr. 3947 . . .	6.5		54	55	2.7	.	44	42	16.2	19.25	.	1.2844	9.4474	9.7037	9.8295
Gr. 3964 . . .	7.0		57	14	2.5	.	59	10	50.3	19.30	.	1.2857	9.4321	9.6576	9.9174
Gr. 3965 . . .	6.5	22	57	21	2.6	.	54	33	48.8	19.31	.	1.2857	9.4313	9.6735	9.8946
Gr. 3990 . . .	6.5	23	01	54	2.5	.	59	03	05.7	19.41	.	1.2880	9.3993	9.6417	9.9102
Gr. 4017 . . .	6.5		08	32	2.7	.	49	56	16.4	19.55	.	1.2911	9.3477	9.6529	9.8723
Gr. 4020 . . .	7.1		09	13	2.8	.	45	50	38.8	19.56	.	1.2914	9.3420	9.6627	9.8450
Gr. 4043 . . .	6.7		14	50	2.6	.	59	35	26.8	19.66	.	1.2937	9.2918	9.5894	9.9272
Gr. 4052 . . .	6.5	23	18	09	+ 2.9	.	40	55	37.0	+ 19.72	.	1.2949	9.2590	9.6501	9.8090

No.	Mag.	Right ascension, 1875.0.			Annual precession.	Proper motion.	Declination, 1875.0.			Annual precession.	Proper motion.	Log $\alpha'$ .	Log $\beta'$ .	Log $\epsilon'$ .	Log $\delta'$ .
		h.	m.	s.	s.	s.	°	'	"	"	"				
Gr. 4074 . . .	7.0	23	23	28	+ 2.8	. .	45	46	37.7	+ 19.80	. .	1.2966	9.2007	9.6195	9.8498
Gr. 4083 . . .	6.8		25	48	2.9	. .	43	22	56.4	19.83	. .	1.2973	9.1722	9.6206	9.8320
Gr. 4110 . . .	7.2		32	27	2.8	. .	57	57	45.4	19.91	. .	1.2990	9.0788	9.5209	9.9251
Gr. 4125 . . .	6.5		35	21	2.9	. .	48	49	12.2	19.94	. .	1.2996	9.0308	9.5641	9.8741
Arg. 246 . . .	7.5		37	20	2.9	. .	57	22	12.1	19.95	+ 0.47	1.3000	8.9945	9.5013	9.9233
Gr. 4136 . . .	6.5		38	43	2.9	. .	55	06	21.0	19.97	. .	1.3003	8.9672	9.5109	9.9120
Gr. 4139 . . .	6.5		41	21	3.0	. .	46	08	18.3	19.99	. .	1.3007	8.9101	9.5554	9.8565
Gr. 4172 . . .	6.0		50	43	3.0	. .	41	57	45.0	20.04	. .	1.3018	8.6070	9.5437	9.8248
Gr. 4190 . . .	7.2		52	54	3.0	. .	49	50	01.2	20.04	. .	1.3020	8.4911	9.4822	9.8830
R. C. 6254 . .	6.3		54	11	3.0	. .	58	51	52.1	20.05	. .	1.3021	8.4040	9.3910	9.9323
Gr. 4207 . . .	6.8		56	44	3.1	. .	42	03	07.7	20.05	. .	1.3021	8.1535	9.5208	9.8259
Gr. 4216 . . .	7.0	23	57	45	3.1	. .	49	10	27.4	20.05	. .	1.3021	7.9906	9.4640	9.8789
Gr. 4237 . . .	6.7	0	01	11	3.1	. .	39	27	10.8	20.05	. .	1.3022	7.7126 n	9.5207	9.8031
Gr. 4243 . . .	7.0		02	59	3.1	. .	45	41	33.9	20.05	. .	1.3021	8.1134 n	9.4681	9.8547
Gr. 2 . . .	7.1		03	46	3.1	. .	51	33	35.0	20.05	. .	1.3021	8.2151 n	9.4048	9.8938
Gr. 9 . . .	5.5		05	27	3.1	. .	47	27	22.2	20.05	. .	1.3020	8.3760 n	9.4408	9.8672
Gr. 13 . . .	6.5		06	02	3.1	. .	44	00	45.2	20.04	. .	1.3020	8.4203 n	9.4680	9.8417
Gr. 24 . . .	6.9		08	02	3.1	. .	40	20	11.0	20.04	. .	1.3019	8.5443 n	9.4886	9.8108
Gr. 55 . . .	7.1		16	04	3.2	. .	53	57	07.1	20.00	. .	1.3011	8.8454 n	9.2982	9.9066
R. C. 93 . . .	7.0		19	24	3.2	. .	56	05	17.8	19.98	. .	1.3006	8.9270 n	9.2354	9.9175
Gr. 64 . . .	7.1		20	28	3.2	. .	49	17	37.4	19.97	. .	1.3004	8.9502 n	9.3332	9.8780
Gr. 74 . . .	6.7		24	29	3.2	. .	43	15	21.9	19.94	. .	1.2997	9.0280 n	9.3855	9.8334
Gr. 86 . . .	7.3		25	53	3.3	. .	53	25	52.0	19.92	. .	1.2994	9.0519 n	9.2253	9.9020
Gr. 96 . . .	7.1		28	32	3.3	. .	53	30	50.3	19.90	. .	1.2988	9.0940 n	9.1992	9.9019
Gr. 108 . . .	7.0		31	25	3.4	. .	59	38	12.6	19.86	. .	1.2981	9.1357 n	9.0062	9.9318
Gr. 125 . . .	7.0		35	33	3.3	. .	51	39	04.8	19.81	. .	1.2969	9.1898 n	9.1696	9.8892
Gr. 142 . . .	7.5		40	55	3.4	. .	50	45	43.8	19.73	. .	1.2952	9.2494 n	9.1364	9.8821
Gr. 241 . . .	6.7	0	59	56	3.5	. .	48	53	10.7	19.37	. .	1.2871	9.4126 n	8.9569	9.8620
Gr. 294 . . .	6.5	1	13	02	3.5	. .	42	51	08.8	19.04	. .	1.2797	9.4960 n	9.0212	9.8101
Gr. 297 . . .	6.5		14	22	3.6	. .	49	27	58.0	19.01	. .	1.2789	9.5035 n	8.5988	9.8576
Gr. 299 . . .	6.5		14	56	3.5	. .	42	55	44.6	18.99	. .	1.2785	9.5067 n	8.9954	9.8096
Gr. 317 . . .	6.5		20	51	3.5	. .	43	24	01.0	18.82	. .	1.2746	9.5384 n	8.8914	9.8094
Gr. 357 . . .	7.0		32	17	3.8	. .	53	13	58.9	18.45	. .	1.2660	9.5931 n	8.7344 n	9.8675
Gr. 374 . . .	6.8		36	49	3.6	. .	45	30	39.8	18.29	. .	1.2622	9.6128 n	8.0629	9.8134
Gr. 400 . . .	7.3	1	47	08	+ 3.6	. .	40	02	24.4	+ 17.90	. .	1.2529	9.6538 n	8.6264	9.7592





# DETAILS OF POSITIONS

OF

## BRITISH ASSOCIATION CATALOGUE STARS.

No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.			No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.		
		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
4108	M. . . . . Rob. . . . . Q. . . . . Ay., 1864 . . . . . Ad. . . . .	12	05	30.21 30.29 30.21* 30.12 30.28	57	44	59.7 02.2 . 01.7 01.0	4217	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	12	24	07.93 07.84 07.90 07.89	52	13	31.0 31.4 32.5 31.5
4121	M. . . . . Rob. . . . . Wn. . . . . Ad. . . . .	12	08	31.24 31.25 31.28 31.26	54	07	48.5 49.1 48.8 48.6	4219	R. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Pulc. . . . . Ad. . . . .	12	24	12.47 12.59 12.37 12.07 . 12.48	59	27	34.2 34.5 34.7 35.3 33.7 33.8
4123	St. . . . . R. C. <sub>2</sub> . . . . . Ay., 1869 . . . . . Leid. . . . . Ad. . . . .	12	09	14.02 13.02 13.93 . 13.97	57	43	37.0 38.0 38.7 38.4 37.9	4233	T. . . . . H. . . . . Rob. . . . . Main . . . . . Ay. . . . . Ad. . . . .	12	27	28.68 29.18 29.41 29.34 29.34 29.44	33	56	19.5 21.4 22.2 19.3 19.0 20.4
4126	St. . . . . Main . . . . . Ad. . . . .	12	09	51.49 51.38 51.47	41	21	21.8 19.8 21.1	4235	St. . . . . Ay., 1867, 1868, 1869 . . . . . Ad. . . . .	12	27	48.17 48.23 48.19	42	02	13.1 13.1 13.1
4128	T. . . . . H. . . . . Rob. . . . . Ay., 1860 . . . . . Wn. Tran. . . . . Ad. . . . .	12	10	13.28 13.02 12.95 13.03 12.86 12.94	33	45	38.5 41.0 39.6 33.5 . 33.5	4244	Rob. . . . . Ja. . . . . R. C. <sub>2</sub> . . . . . Main . . . . . Sm. . . . . Ad. . . . .	12	29	04.31 04.27 . 04.51* 04.59 04.47	37	06	[46.1*] 52.3 51.6 51.6 52.4 51.9
4148	M. . . . . Rob. . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	12	13	38.93 38.81 38.91 . 38.88	49	40	41.2 41.3 40.9 41.4 41.1	4258	M. . . . . Rob. . . . . Ad. . . . .	12	32	45.09 45.19 45.14	41	33	44.6 45.7 44.9
4159	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	12	14	46.98 46.96 47.04* 46.98	58	33	36.4 37.6 35.5 36.3	4282	H. . . . . Ay., 1845 . . . . . R. C. . . . . Ja. . . . . Wn. Tran. and Mur. . . . . Ad. . . . .	12	38	32.88 32.86 32.92 32.65 32.82 32.87	44	47	15.6 15.4 15.8 16.4 14.9 15.5
4177	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	12	17	37.72 37.78 37.78 37.76	43	14	07.0 07.7 07.0 07.1	4285	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Wn. . . . . Ad. . . . .	12	39	04.58 . 04.51 04.76 04.65	39	57	31.7 32.7 31.6 30.3 31.5
4180	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	12	17	56.51 56.48 56.53 56.51	52	15	17.4 17.2 17.9 17.3	4287	H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ay. . . . . Ad. . . . .	12	39	14.95 15.09 15.08 14.78 15.18 15.08	46	07	26.2 26.0 26.5 26.3 25.8 25.9
4185	M. . . . . Rob. . . . . Ad. . . . .	12	19	04.16 04.11 04.14	57	28	14.8 15.5 14.9	4303	M. . . . . Rob. . . . . Ay., 1860 . . . . . R. C. <sub>2</sub> . . . . . Wn. Tran. and Mur. . . . . Ad. . . . .	12	42	56.45 56.52 56.45 56.52 56.38* 56.47	49	08	54.2 55.9 53.9 53.9 54.7 54.4
4188	St. . . . . Wn. . . . . Ad. . . . .	12	19	41.27 41.30 41.28	39	42	43.4 43.7 43.5	4311	R. . . . . H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ay. . . . . Wn. . . . . Ad. . . . .	12	44	[13.75] 14.38 14.39 14.25 11.07 14.37 . 14.34	38	11	50.6 50.9 51.1 50.7 50.2 50.5 50.6 50.6
4194	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	12	20	33.11 . 33.24 33.18	55	51	04.1 04.6 03.5 03.9	4335	St. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	12	48	31.48 31.57 31.51	56	52	17.9 17.7 17.8
4203	M. . . . . Rob. . . . . Wn. Tran. . . . . Ad. . . . .	12	21	37.74 37.86 37.89 37.83	56	24	15.9 17.3 . 16.4								
4216	St. . . . . Pulc. . . . . Ay., 1867 . . . . . Wn. . . . . Ad. . . . .	12	24	06.71 . 06.54 06.72 06.68	59	05	36.5 37.1 37.6 37.4 37.0								

## CATALOGUE OF STARS.

No.	Authority.	Right Ascension, 1875.o.			Declination, 1875.o.			No.	Authority.	Right Ascension, 1875.o.			Declination, 1875.o.		
		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
4341	H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	12	49	13.78	47	52	31.2	4416	T. . . . . R. . . . . H. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	13	04	25.57*	57	29	50.8*
				13.78			30.4					25.25			49.4
				13.44			28.5					25.51			51.4
				13.78			29.9					25.30			51.1
												25.06			53.0
												25.34			50.9
4345	Ja. . . . . Ay., 1860 . . . . . R. C. . . . . Ay., 1864 . . . . . Wn. . . . . Ay., 1868 . . . . . Ad. . . . .	12	50	09.17	38	59	23.2	4420	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Ad. . . . .	13	05	48.08	41	27	26.9
				09.45			24.3								27.8
				09.53			24.2								27.2
				09.44			24.2					48.02			27.2
				09.44			23.9					48.00			27.6
				09.43			24.6					48.03			27.2
				09.46			24.3								
4348	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Arg., 1862, 1863 . . . . . Ad. . . . .	12	50	48.53	54	46	31.3	4433	T. . . . . Ay., 1845 . . . . . H. . . . . R. C. . . . . Rob. . . . . Ay., 1860 . . . . . Wn. Tran. and Mur. . . . . Ad. . . . .	13	08	02.72	40	48	54.8
				48.59			34.8					02.98			54.4
				48.37			34.3					02.59			54.3
				48.70			35.1					02.85			55.7
				48.57			34.7					02.85			54.8
				48.55			34.5					02.75			55.4
												02.56*			54.9
												02.77			55.0
4350	H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	12	51	25.08	46	51	20.9	4438	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	13	09	54.66	41	30	56.1
				24.97			20.5					54.56			56.5
				20.13			20.3					54.57			57.0
				24.85			18.6					54.60			56.4
				25.06			19.9								
4360	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Ad. . . . .	12	54	17.50	31	27	36.9	4451	St. . . . . Ay., 1869 . . . . . Leid. . . . . Ad. . . . .	13	11	56.12	41	13	52.6
				17.41			35.7					56.15			52.9
				17.44			35.4								52.4
				17.33*			35.9*					56.12			52.6
				17.43			35.8								
4366	M. . . . . Rob. . . . . R. C. . . . . Ay., 1860 . . . . . Wn. Tran. . . . . Ad. . . . .	12	55	21.31	57	02	23.2	4453	T. . . . . H. . . . . Rob. . . . . Main, 1868 . . . . . Ad. . . . .	13	12	40.17	34	45	23.6
				21.32			24.3					40.29*			23.7
				21.50			24.8					40.27			25.0
				21.48			25.4								22.2
				21.56								40.24			23.8
				21.43			24.3								
4384	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Wn. Tran. . . . . Ay., 1869 . . . . . Leid. . . . . Ad. . . . .	12	59	53.79	36	28	06.0	4457	R. . . . . Ja. . . . . Arg. . . . . Main, 1868 . . . . . Smyth . . . . . Ad. . . . .	13	13	19.15	35	47	05.6
				53.75			05.8					18.94			06.4
				53.67			04.8					19.24			06.1
				53.66			06.0								06.4*
				53.61								19.36			06.0
				53.71			05.5					19.20			06.1
							05.4								
				53.70			05.6								
4389	H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	13	00	14.65	45	56	14.7	4467	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	13	14	42.82	40	48	26.7
				14.40			13.2					42.76			25.6
							14.5					42.82			26.6
				14.35			14.3					42.80			26.0
				14.52			14.0								
4407	R. . . . . Ay. . . . . R. C. . . . . Ja. . . . . Ay., 1869 . . . . . Wn. . . . . Wn. Tran. . . . . Leid. . . . . Ad. . . . .	13	03	[53.91]	38	05	23.8	4479	R. C. . . . . Rob. . . . . Ja. . . . . Wn. Tran. and Mur. . . . . Ay., 1868 . . . . . Ad. . . . .	13	18	13.83	37	41	15.8
				53.15			23.2					13.43			14.6
				52.99			23.8					13.77			13.7
				52.83			22.5					13.73			14.0
				52.85			22.5					13.78			14.2
				52.90			22.2								
				52.74								53.40			41.9
												53.31			41.8
												53.48			45.2
												53.42			43.8
															41.7
															43.3
												53.40			42.9
4408	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	13	03	56.78	39	12	01.9	4486	Ay., 1860 . . . . . R. C. . . . . Ay., 1864 . . . . . Wn. . . . . Wn. Mur. . . . . Ay., 1868 . . . . . Ad. . . . .	13	18	54.26	55	34	30.2
				56.91			01.6					54.28			30.6
				56.75			01.2					54.26			30.8
				56.81			01.4					54.37			31.8
															30.9
												54.41			31.9
												54.32			31.0
4414	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	13	04	16.50	39	23	25.4	4493	M. . . . . Ay., 1860 . . . . . R. C. . . . . Wn. Tran. and Mur. . . . . Ay., 1869 . . . . . Ad. . . . .	13	20	13.04	55	38	21.7
				16.67			26.8					13.03			22.3
				16.64			24.1					12.84			22.2
				16.67			25.3					13.15			23.1
												12.92			23.6
												13.00			22.4
4415	St. . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	13	04	18.74	39	09	49.8								
				18.68			49.4								
				18.75			49.7								
				18.73			49.7								

## CATALOGUE OF STARS.

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No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	" ' "			h. m. s.	" ' "
4519	R. . . . . H. . . . . R. C. . . . . Ja. . . . . Arg. . . . . Wn. Tran. . . . . Wn. . . . . Ad. . . . .	13 25 50.40 50.56 50.51 50.19 50.26 50.34 50.49 50.42	42 41 59.2 45 00.5 00.3 44 58.3 45 00.1 45 00.0 44 59.4	4600	R. . . . . H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	13 41 36.74 36.59 36.52 36.22 36.53	39 10 08.3 08.5 08.1 07.0 07.9
4536	St. . . . .	13 29 12.76	37 49 23.5	4605	M. . . . . Rob. . . . . R. C. . . . . Ad. . . . .	13 41 55.67 55.72 55.63 55.68	55 03 25.0 26.5 27.3 26.1
4538	M. . . . . Rob. . . . . Ay., 1860 . . . . . R. C. . . . . Ad. . . . .	13 29 20.58 20.64 20.67 20.64 20.63	49 39 19.4 20.2 19.8 19.0 19.6	4607	American Nautical Almanac	star.	
4540	M. . . . . Rob. . . . . Wn. . . . . Ad. . . . .	13 29 18.94 18.92 18.84 18.90	55 59 21.9 22.7 21.7 21.9	4609	H. . . . . R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	13 42 48.36 48.33 47.88 48.48 48.39	42 40 25.6 25.2 23.6 22.3 24.1
4545	H. . . . . R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	13 29 54.85 54.81 54.45 54.83	44 50 12.3 11.2 11.0 11.7 11.5	4610	H. . . . . Ja. . . . . Arg. . . . . Main . . . . . Sm. . . . . Ad. . . . .	13 43 00.23 42 59.92 43 00.29 00.19* 00.35 00.25	31 48 42.6 42.9 42.0 [32.6]* 42.9 42.6
4550	M. . . . . R. C. . . . . Rob. . . . . Wn. . . . . Sm. . . . . Ad. . . . .	13 31 37.78 37.87 [37.18] 37.91 38.01 37.85	53 19 35.0 35.6 36.6 35.4 35.6	4627	R. . . . . H. . . . . Rob. . . . . Ja. . . . . R. C. . . . . Sm. . . . . Ad. . . . .	13 45 33.28 33.42 33.07 33.37 33.56 33.36	35 23 35.0 33.5 34.7* 33.1 32.4 33.6
4552	R. . . . . Ay., 1845 . . . . . H. . . . . Rob. . . . . Ay., 1850 . . . . . Ja. . . . . Wn. Tran. . . . . Sm. . . . . Ad. . . . .	13 31 54.56 54.60 54.65 54.61 54.20 54.42 54.51 54.56	36 55 50.4 52.1 52.9 52.7 52.1 52.0 52.3	4628	H. . . . . Rob. . . . . Ja. . . . . R. C. . . . . Sm. . . . . Ad. . . . .	13 45 38.23 37.85 38.28* 38.25	35 17 10.9 11.6* 09.4 10.5* 09.5 10.0
4555	M. . . . . R. C. . . . . Rob. . . . . R. C. . . . . Sm. . . . . Ad. . . . .	13 32 17.95 18.14 17.63 18.07 18.01	53 13 50.1 51.2 50.9 50.6 50.5	4632	Ja. . . . . Ay., 1864 . . . . . Main, 1864 . . . . . Wn. Tran. . . . . Sm. . . . . Ad. . . . .	13 46 16.39 16.61 16.53 16.59 16.69 16.53	35 03 51.2 50.8 51.6 49.0* 50.8
4556	T. . . . . R. . . . . H. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	13 32 42.31 42.45 [41.87] 42.36 42.66 42.44	51 21 05.8 05.0 04.8 05.1 [08.7] 09.9	4649	M. . . . . Rob. . . . . R. C. . . . . Ad. . . . .	13 49 15.06 15.11 14.95 15.04	54 20 36.7 37.3 36.1 36.5
4564	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Ad. . . . .	13 34 40.06 39.92 40.16 40.21 40.09	53 33 11.1 12.0 12.6 13.6 12.2	4652	Ja. . . . . R. C. . . . . Sm. . . . . Ad. . . . .	13 50 37.76 37.89 37.64 37.89	32 38 35.3 35.3 35.0 35.1
4568	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	13 35 39.65 [36 00.05] 35 59.74 59.70	55 18 52.3 51.2 53.4 52.1	4676	B. Z. . . . . Ja. . . . . Main . . . . . Sm. . . . . Ad. . . . .	13 55 49.66* 49.43 49.77 49.66	32 10 12.3* 11.5 11.3 10.8 11.0
4592	T. . . . . Rob. . . . . Main . . . . . Ad. . . . .	13 40 37.12 36.94 37.03	31 31 40.1 40.0 36.0 35.7	4678	R. . . . . Ja. . . . . Main . . . . . Sm. . . . . Ad. . . . .	13 57 00.70* 00.30 00.48 00.55 00.55	32 15 47.8* 47.7 49.4 48.5 48.4
4595	R. C. . . . . Ja. . . . . Wn. Mur. . . . . Ad. . . . .	13 40 54.28 53.87 54.28	39 07 50.9 47.4 48.5* 48.9	4684	T. . . . . R. . . . . R. C. . . . . Rob. . . . . Ay. . . . . Ad. . . . .	13 58 20.82 20.66* 20.61 20.58 20.54 20.64	51 34 22.5 27.6* 21.7 26.6 25.1 24.6
4596	Ay., 1845 . . . . . H. . . . . R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	13 40 55.24 55.29 55.27 54.66 55.16 55.24	41 43 00.8 00.1 00.2 00.3 42 59.0 43 00.1	4694	Rob. . . . . Ja. . . . . Main . . . . . Wn. . . . . Ad. . . . .	14 00 53.51 53.33 53.56 53.65 53.57	31 25 56.7 57.2 51.9 53.7 52.8

No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.			No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.		
		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
4699	T. . . . .	14	02	55.86	44	26	57.5	4778	R. . . . .	14	18	18.24*	37	46	23.0*
	R. . . . .			55.88		27	01.0		R. C. . . . .			18.29			24.4
	H. . . . .			55.66			00.6		Ja. . . . .			17.92			22.6
	Rob. . . . .			55.78			01.6		Wn. Tran. . . . .			17.98			
	Ay., 1864 . . . . .			55.85	26		59.8		Ad. . . . .			18.18			23.2
	Wn. . . . .			55.86			59.0	4783	R. C. . . . .	14	20	23.12	38	57	30.7
	Leid. . . . .						59.5		Ja. . . . .			22.75			30.3
	Gr., 1869 . . . . .			55.74			59.9		Ay., 1860 . . . . .						31.5
	Ad. . . . .			55.85			59.6		Ay., 1864 . . . . .			23.06			32.0
4701	M. . . . .	14	03	36.93	50	02	56.6		Wn. . . . .			23.14			31.6
	Rob. . . . .			37.12			59.0		Ad. . . . .			23.11			31.1
	Leid. . . . .						58.3	4797	R. . . . .	14	23	05.89*	36	45	24.4*
	Ay., 1869 . . . . .			37.08			58.9		Ja. . . . .			05.56			24.1
	Ad. . . . .			37.04			58.1		Main . . . . .						25.5*
4714	T. . . . .	14	05	48.23	32	53	02.2		Wn. Tran., 1868 . . . . .			05.90			
	R. . . . .			47.95*			01.1*		Sm. . . . .			05.95			25.2
	Rob. . . . .			48.04			02.0		Ad. . . . .			05.90			24.8
	Main . . . . .			48.00			03.3	4803	T. . . . .	14	24	28.43	32	20	52.8
	Wn. . . . .			48.06*			02.2		R. . . . .			28.38			52.4
	Ad. . . . .			48.05			02.3		Rob. . . . .			28.47			54.0
4725	From the following star, its comparison by observed differences of right ascension and declination.														
4726	M. . . . .	14	09	00.41	52	22	29.1		Wn. . . . .			28.31			54.2
	Rob. . . . .			00.30*			28.6		Wn., 1868 . . . . .			28.40*			55.6*
	Ay., 1860 . . . . .			00.25			28.9		Ad. . . . .			28.40			53.6
	R. C. . . . .			00.34			29.2	4804	M. . . . .	14	24	16.81	50	24	18.6
	Ad. . . . .			00.33			28.8		Rob. . . . .			16.88			17.7
4728	H. . . . .	14	09	21.09	42	06	26.8		Q. . . . .						18.2
	R. C. . . . .			21.10			27.1		Ay., 1860 . . . . .			16.93			17.7
	Rob. . . . .						26.0		R. C. . . . .			16.85			18.6
	Ja. . . . .			20.70			26.0		Ad. . . . .			16.87			18.1
	Wn. . . . .			21.10			22.8	4805	R. C. . . . .	14	24	40.76	42	21	46.9
	Ad. . . . .			21.10			22.0		Ja. . . . .						43.8
4736	Ay., 1840 . . . . .	14	10	53.84	53	07	03.8		Ay., 1860 . . . . .			41.01			43.9
	R. C. . . . .			54.20			03.9		Ay., 1864 . . . . .			41.08			41.1
	Ja. . . . .			53.18			02.4		Wn. . . . .			41.14			40.6
	Ad. . . . .			54.00			03.0		Ad. . . . .			41.22			39.5
4738	H. . . . .	14	11	19.48	40	19	29.9	4808	St. . . . .	14	26	26.56	30	55	16.4
	R. C. . . . .			19.33			29.7		R. C. . . . .			26.47			16.9
	Ja. . . . .			19.04			30.5		Ay., 1864 . . . . .			26.57			16.3
	Sm. . . . .			19.36*			29.8		Ay., 1868, 1869 . . . . .			26.56			16.0
	Ad. . . . .			19.40			29.9		Eng. . . . .			26.63			15.9
4741	St. . . . .	14	11	37.88	46	39	45.1		Arg. . . . .			26.59			16.7
	R. C. . . . .			37.86			45.8		R. C., 1868 . . . . .						15.2
	Ay., 1869 . . . . .			37.86			47.4		Sm. . . . .			26.60			
	Leid. . . . .						47.2		Ad. . . . .			26.56			16.4
	Ad. . . . .			37.87			46.3	4812	St. . . . .	14	27	02.74	38	51	20.7
4742	St. . . . .	14	11	44.33	51	56	39.4		R. C. . . . .			02.72			20.5
	R. C. . . . .			44.18			41.2		Wn. . . . .			02.55			21.7
	Main, 1868 . . . . .						38.9		Ad. . . . .			02.69			20.9
	Ad. . . . .			44.28			39.8	4816	R. C. . . . .	14	28	13.86	37	30	45.3
4747	T. . . . .	14	12	42.62	36	05	11.1		Ja. . . . .			13.47			45.9
	H. . . . .			42.67			13.9		Wn. . . . .			13.84			45.2
	Rob. . . . .			42.65*			13.9		Ad. . . . .			13.85			45.3
	Main . . . . .			42.72			14.5	4820	R. . . . .	14	28	52.31*	33	05	00.1*
	Ay. . . . .			42.72			13.0		Ja. . . . .			52.24			00.7
	Ad. . . . .			42.68			13.2		Main . . . . .			52.48*			02.1
4752	M. . . . .	14	12	54.32	51	53	10.7		Sm. . . . .			52.67			00.6
	Rob. . . . .			54.29			11.4		Ad. . . . .			52.40			00.9
	Ay., 1864 . . . . .			54.38			08.6	4823	M. . . . .	14	29	14.29	30	17	21.6
	Ay., 1868 . . . . .			54.54			10.2		Rob. . . . .			14.28			21.6
	Ad. . . . .			54.38			09.0		Ay., 1860 . . . . .			14.24			21.1
4756	Ay., 1840 . . . . .	14	14	08.26	52	36	35.6		R. C. . . . .			14.30			24.1
	R. C. . . . .			08.52			35.3		Ay., 1864 . . . . .			14.29			
	Ja. . . . .			08.09			35.5		Wn. Tran. . . . .			14.20			
	Sm. . . . .			08.58			34.4		Ad. . . . .			14.27			22.0
	Ad. . . . .			08.39			35.1	4825	T. . . . .	14	29	32.11	37	10	36.0
4758	H. . . . .	14	14	39.74	39	22	11.0		H. . . . .			31.98			35.6
	R. C. . . . .			39.72			10.5		Rob. . . . .			31.93			35.8
	Ja. . . . .			39.37			08.5		Main . . . . .			31.86			36.0
	Ay., 1864 . . . . .			39.72			09.6		Wn., 1846 . . . . .						35.4*
	Ad. . . . .			39.72			09.8		Ad. . . . .			31.97			35.9

## CATALOGUE OF STARS.

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No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.			No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.		
		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
4826	R. . . . . T. . . . . R. C. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	14	29	25.03 25.48 24.91 24.66 24.58 24.31	53	26	48.6 46.6 50.8 52.8 54.6 53.9	4917	R. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	14	47	38.73 38.80 38.36 38.76	46	59	33.0 32.0 30.5 31.5
4827	R. . . . . Ay., 1845 . . . . . R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	14	29	31.66* 31.79 31.92 31.41 31.90 31.84	47	20	06.0* 06.5 03.8 05.5 05.6 05.2	4918	St. . . . .	14	48	16.08	59	48	10.0
								4934	B. A. C. . . . . R. C. . . . . Ja. . . . . Sm. . . . . Ad. . . . .	14	51	16.94 17.04 16.72 17.12 16.99	41	38	27.1 26.8 26.7 26.5 26.6
4830	R. . . . . Hud. . . . . R. C. . . . . Ja. . . . . Q. . . . . Ad. . . . .	14	30	17.69* 17.64 17.58 17.12 . 17.62	49	54	50.8* 49.0 48.8 49.0 49.7 49.2	4937	Arg., 1858 . . . . . Wn. Tran. and Mur. . . . . Ad. . . . .	14	52	13.92 14.08 13.95	50	08	25.3 23.8 25.0
								4942	R. C. . . . . Ja. . . . . Ay., 1864 . . . . . Sin. . . . . Ad. . . . .	14	54	38.38 37.98 38.34 38.40 38.36	40	08	31.3 30.4 31.6 31.8 31.2
4841	R. . . . . Ay., 1845 . . . . . R. C. . . . . Ja. . . . . Ay., 1864 . . . . . Ad. . . . .	14	33	30.96 31.05 31.08 30.47 30.90 31.00	44	10	54.8 55.3 55.3 54.0 55.8 56.4	4943	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	14	54	49.31 . 49.40 49.36	39	45	44.3 44.0 43.5 43.8
								4952	R. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	14	56	22.70* 22.90 22.32 22.83	47	46	19.8* 18.3 19.5 18.8
4843	St. . . . .	14	34	11.09	44	56	41.8	4958	American Nautical Almanac star.						
4845	T. . . . . R. . . . . H. . . . . R. C. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	14	34	17.32 17.36 17.43 17.29 17.30 17.08 17.27	54	33	50.7 52.5 52.3 51.5 53.4 51.1 51.4	4961	Ay., 1845 . . . . . H. . . . . Rob. . . . . Ad. . . . .	14	58	06.74 06.83 06.80* 06.79	35	41	46.2 46.7 47.4 46.8
								4965	R. . . . . Ay., 1840 . . . . . R. C. . . . . Ja. . . . . Sm. . . . . Ad. . . . .	14	58	42.08 41.79 41.81 41.45 41.85 41.89	45	08	04.4 02.0 03.2 02.0 01.6 02.3
4863	R. . . . . Ja. . . . . Main . . . . . Sm. . . . . Ad. . . . .	14	37	35.98* 35.84 36.07 36.25 36.03	37	17	25.2* 23.7 24.3 23.8 24.0	4974	M. . . . . R. C. <sub>2</sub> . . . . . Rob. . . . . Ay., 1860 . . . . . Wn. . . . . Wn. Tran. . . . . Ad. . . . .	14	59	40.12 40.22 40.20 40.07 40.08 40.26 40.16	48	08	28.1 28.5 29.7 28.8 27.8 . 28.8
4870	R. . . . . Ay., 1845 . . . . . R. C. . . . . Ja. . . . . Ad. . . . .	14	38	53.49* 53.39 53.57 53.09 53.48	40	59	21.4* 20.3 20.3 19.3 20.2	4980	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Leid. . . . . Ad. . . . .	15	01	17.26 17.29 17.36 . 17.30	48 [37 38	53.1] <sup>2</sup> 05.1 04.4 05.2 04.5	
4881	T. . . . . R. C. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	14	39	53.36 53.36 . 53.51 53.41	45	42	51.9 55.2 57.6 54.4 55.4	4992	H. . . . . R. C. . . . . Ja. . . . . Sm. . . . . Ad. . . . .	15	02	42.42 42.37 41.74 42.60 42.39	55	02	17.8 17.4 16.8 16.6 17.0
4885	T. . . . . R. C. . . . . Wn. . . . . Ad. . . . .	14	40	46.77 47.06 46.92 46.92	42	54	22.7 26.1 26.2 25.1	5000	R. . . . . Ja. . . . . Main . . . . . Sm. . . . . Ad. . . . .	15	05	35.07* 34.72 34.90* 35.14 34.98	33	33	11.9* 12.5 12.3 12.2 12.2
4897	Arg., 1854 . . . . . Wn. . . . . Wn. Tran. . . . . Ad. . . . .	14	44	12.29 12.31 12.18* 12.29	38	19	38.15 37.7 . 38.0	5019	R. . . . . R. C. . . . . Ja. . . . . Ay., 1860 . . . . . Ad. . . . .	15	07	23.42 23.46 23.04 23.47 23.45	49	09	51.7 52.5 50.3 52.8 51.5
4903	M. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	14	44	51.31 51.46 . 51.31	46	38	16.2 15.9 18.0 16.5	5026	R. . . . . R. C. . . . . Ja. . . . . Wn. Tran. . . . . Ad. . . . .	15	08	49.95* 50.01 49.43 49.98* 49.99	38	44	01.7* 03.5 03.0 . 02.5
4906	Arg., 1854 . . . . . Ay., 1864 . . . . . Ay., 1868 . . . . . Ad. . . . .	14	45	33.57 33.54 . 33.56	37	47	09.1 08.8 . 09.0								
4907	M. . . . . Rob. . . . . Ad. . . . .	14	45	26.34 26.35 26.34	49	14	06.4 07.9 06.9								
§ 10" added in taking the mean.															

§ 10" added in taking the mean.

No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.			No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.		
		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
5033	Ay., 1845 . . . . . R. C. . . . . Ja. . . . . Arg. . . . . Wn. . . . . Ad. . . . .	15	09	39.08 39.23 38.71 39.14* 39.34 39.21	42	38	16.8 17.5 15.0 17.3* 15.4 16.3	5155	M. . . . . Rob. . . . . Ay., 1860 . . . . . Wn. Tran. . . . . Ad. . . . .	15	30	39.64 . 39.75 39.47* 39.65	39	25	35.2 35.3 34.3 . 34.8
5036	St. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	15	10	27.85 27.89 27.84 27.81 27.85	33	46	56.1 56.5 56.1 56.1 56.2	5157	R. C. . . . . Ja. . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	15	30	52.94 52.59 52.86 53.02 52.94	43	34	55.8 53.9 56.6 56.2 55.6
5061	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	15	14	58.40 58.37 58.31 58.33	30	04	15.2 15.8 14.3 14.9	5164	Ay., 1845 . . . . . R. C. . . . . Ja. . . . . Ad. . . . .	15	31	29.62 29.82 29.46 29.72	50	06	51.4 50.9 50.4 50.6
5064	T. . . . . R. C. . . . . Ay., 1850 . . . . . R. C. <sub>2</sub> . . . . . Wn. Tran. and Mur. . . . . Wn. . . . . Ad. . . . .	15	15	33.97 33.70 33.66 33.73 33.61 33.86 33.76	50	40	00.5 02.5 . 02.7 02.6 00.6 01.7	5168	St. . . . . Wn. . . . . Ad. . . . .	15	33	20.27 20.34 20.29	40	45	41.8 41.4 41.7
5071	H. . . . . R. C. . . . . Ja. . . . . Sm. . . . . Ad. . . . .	15	16	24.80 24.61 24.14 24.74 24.71	52	24	34.5 34.2 34.4 33.8 34.1	5177	T. . . . . H. . . . . R. C. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Wn. . . . . Ad. . . . .	15	34	15.76 15.62 15.76 15.90 15.82 15.96 16.11	47	12	43.7 42.5 41.1 41.8 39.7 39.0 38.0
5072	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Main, 1868 . . . . . Ad. . . . .	15	16	48.31 . 48.29 . 48.49 48.30	33	22	55.8 57.0 55.1 55.7 57.3 55.8	5178	St. . . . . R. C. <sub>2</sub> . . . . . Main . . . . . Ay., 1869 . . . . . Ad. . . . .	15	34	40.24 40.29 40.20* 40.24 40.25	37	02	32.9 33.8 35.8* 33.1 33.3
5075	M. . . . . Rob. . . . . O. . . . . R. C. <sub>2</sub> . . . . . Main . . . . . Main, 1868 . . . . . Ad. . . . .	15	18	02.47 02.31 02.40 02.50 02.40 02.39 02.42	30	44	26.2 26.4 25.1 26.1 26.3 25.8* 25.9	5181	H. . . . . R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	15	34	55.18 55.10 54.54 55.22 55.16	50	49	55.6 56.3 [52.5] 54.1 55.1
5076	R. . . . . H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	15	17	59.84 59.87 59.98 59.59 59.92	40	01	45.2 44.6 43.1 43.2 43.9	5204	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Ad. . . . .	15	39	03.60 . . 03.72 03.66	32	54	42.5 42.8 42.2 41.8 42.2
5077	Ay., 1846 . . . . . R. C. . . . . Ja. . . . . Ad. . . . .	15	17	50.15 50.25 49.63 50.20	52	47	32.8 31.7 30.2 31.3	5210	H. . . . . Ay., 1845 . . . . . R. C. . . . . Ay., 1869 . . . . . Leid. . . . . Ad. . . . .	15	39	27.15 26.94 27.10 26.68 . 26.71	52	45	22.1 20.8 20.5 22.5 21.5 22.0
5084	American Nautical Almanac star.														
5092	Ay., 1840 . . . . . R. C. . . . . Ja. . . . . Ad. . . . .	15	21	04.81 04.96 04.48 04.89	47	30	08.1 07.2 08.6 07.7	5248	H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	15	44	36.79 36.82 . 36.49 36.80	55	45	36.9 35.5 35.8 35.4 35.7
5097	St. . . . . R. C. <sub>2</sub> . . . . . Pulc. . . . . Ay., 1869 . . . . . Leid. . . . . Ad. . . . .	15	22	09.05 09.19 . 09.09 . 09.11	59	24	16.2 16.6 16.0 17.4 16.9 16.6	5259	M. . . . . Rob. . . . . O. . . . . Ay., 1860 . . . . . R. C. <sub>2</sub> . . . . . Wn. . . . . Ad. . . . .	15	46	31.28 31.21* . 31.36 31.23 31.16* 31.28	36	02	46.4 45.5* . 46.6* 46.2 47.9 47.7* 46.7
5113	R. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	15	25	24.59 24.60 24.07 24.60	48	08	35.5 36.0 34.7 35.0	5271	M. . . . . R. C. . . . . Rob. . . . . Ay., 1860 . . . . . R. C. <sub>2</sub> . . . . . Wn. . . . . Ad. . . . .	15	48	20.79 21.14 [20.61] 21.16 21.12 21.26 21.09	42	43	08.3 . 11.6 07.7 08.0 08.4* 08.7
5122	St. . . . .	15	26	26.36	41	15	37.0								
5130	St. . . . .	15	27	18.44	41	19	28.6								
5131	St. . . . .	15	27	53.28	31	46	55.1								

No.	Authority.	Right Ascension, 1875.o.	Declination, 1875.o.	No.	Authority.	Right Ascension, 1875.o.	Declination, 1875.o.
		h. m. s.	° ' "			h. m. s.	° ' "
5279	H. . . . . Ay., 1845 . . . . . R. C. . . . . Ay., 1850 . . . . . Ja. . . . . Ad. . . . .	15 49 22.35 22.22 22.22 21.58 22.26	56 11 46.1 46.3 46.3 47.4 [43.8] 46.2	5348	St. . . . . R. C. . . . . Pulc. . . . . Ay., 1869 . . . . . Leid. . . . . Ad. . . . .	15 59 32.86 33.04 32.99 32.99 32.94	58 53 57.9 58.0 58.3 58.8 58.6 58.3
5287	M. . . . . R. C. . . . . Rob. . . . . R. C. . . . . Ad. . . . .	15 50 [28.40] 27.95 28.00 27.88 27.94	43 30 13.8 12.5 11.2 12.9 12.5	5385	M. . . . . Rob. . . . . Q. . . . . Ay., 1860 . . . . . R. C. . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	16 04 24.06 24.05 24.11 24.16 24.11 24.12 24.10 24.10	36 48 36.3 36.0 35.3 35.2 35.2 35.0 35.1 35.4
5295	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	15 51 14.66 14.81 14.74	38 18 34.1 33.7 32.4 33.2	5388	St. . . . . R. C. . . . . Ad. . . . .	16 04 49.73 49.72 49.73	45 15 48.6 48.5 48.6
5298	M. . . . . Rob. . . . . Ad. . . . .	15 51 18.18 18.39 18.25	42 55 50.1 52.0 50.8	5400	M. . . . . Rob. . . . . R. C. . . . . Wn. . . . . Ad. . . . .	16 06 21.14 21.16 21.03 21.21 21.14	44 09 12.3 13.5 12.6 13.2 12.8
5307	R. C. . . . . Ja. . . . . Pulc. . . . . Wn. . . . . Ad. . . . .	15 53 24.35 23.88 24.43 24.39	59 16 21.7 19.8 21.7 22.1 21.5	5411	T. . . . . H. . . . . Rob. . . . . Main . . . . . Wn. . . . . Ad. . . . .	16 07 13.93 13.84 14.01 13.88 13.92	36 44 56.3 57.5 57.0 59.4 57.6
5310	T. . . . . H. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	15 54 20.61 20.49 20.69 20.72 58.2 58.5 58.7 20.63	36 59 56.2 57.4 57.7 58.2 58.5 58.7 57.8	5415	R. C. . . . . Sm. . . . . Ad. . . . .	16 06 36.01 36.23 36.11	58 15 49.6 49.5 49.4
5313	St. . . . . Wn. . . . . Ad. . . . .	15 54 49.36 49.60 49.44	55 06 12.4 13.4 12.7	5417	R. C. . . . . Ja. . . . . Ad. . . . .	16 07 39.39 39.06 39.39	42 41 44.5 43.9 44.0
5316	R. C. . . . . Ja. . . . . Ad. . . . .	15 55 31.48 31.06 31.51	50 14 18.1 15.8 18.8 17.4	5432	M. . . . . Rob. . . . . Q. . . . . R. C. . . . . Main . . . . . Ad. . . . .	16 09 59.76 59.74 59.82 59.82 59.84* 59.80	34 10 35.4 36.5 34.8 35.4 35.2 35.4
5319	M. . . . . Rob. . . . . Q. . . . . Ay., 1860 . . . . . R. C. . . . . Ay., 1864 . . . . . Ay., 1868 . . . . . Ad. . . . .	15 56 16.25 16.16 16.00 15.92 16.00 15.96 16.05	33 40 55.4 55.7 55.0 55.0 54.9 54.2 55.0	5460	H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	16 15 38.50 38.46 38.07 38.48	40 00 32.7 32.2 29.8 31.4
5321	M. . . . . Rob. . . . . Main . . . . . Wn. . . . . Ad. . . . .	15 56 25.98 26.17 26.12 26.16 26.10	30 12 07.2 08.1 07.3 06.5 07.2	5461	R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	16 15 41.77 41.34 41.86 41.82	49 20 16.2 16.2 16.4 16.1
5336	T. . . . . H. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	15 58 43.65 43.34 43.69 43.55 43.84* 43.51 43.57	36 58 38.4 40.4 40.5 39.2 40.9* 41.3 40.0	5463	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Ay., 1868 . . . . . Ad. . . . .	16 15 58.98 58.89 59.02 58.88 59.10 58.97	46 36 42.4 44.1 42.8 43.1 41.6 42.7
5338	M. . . . . Rob. . . . . Ay., 1860 . . . . . Arg. . . . . Ad. . . . .	15 58 54.13 54.26 54.41 54.22 54.26	46 23 03.4 05.0 04.5 04.3 04.1	5473	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Ad. . . . .	16 17 13.62 13.63 13.67 13.68 13.65	31 11 01.3 01.6 00.5 00.2* 00.8
5341	R. C. . . . . Ja. . . . . Ad. . . . .	15 58 54.15 53.86 54.15	53 15 50.4 49.0 49.5	5479	T. . . . . Ay., 1845 . . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	16 17 39.03 38.96 39.21 39.13 39.08	34 05 40.2 41.8 40.8 41.4
				5480	T. . . . . Ay., 1845 . . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	16 17 46.70 46.54 46.68 46.73 46.66	33 59 42.2 43.3 43.3 43.5



No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.			No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.		
		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
5484	M. . . . .	16	18	08.60	32	37	33.4	5568	H. . . . .	16	32	32.44	46	52	02.1
	Rob. . . . .						35.0		R. C. . . . .			32.51			01.7*
	O. . . . .						34.3		Ja. . . . .			32.02	51		59.1
	Ay., 1860 . . . . .						32.6		Ad. . . . .			32.48	52		00.8
	Ay., 1864 . . . . .			08.58			33.0								
	Main . . . . .			08.58*			33.1*	5574	M. . . . .	16	33	14.03	53	09	05.9
	Wn. . . . .			08.61			32.7		Rob. . . . .			14.03			07.7
	Ad. . . . .			08.60			33.4		Ay., 1869 . . . . .			14.10			07.6
									Leid. . . . .						07.4
									Ad. . . . .			14.05			07.1
5496	M. . . . .	16	20	56.95	37	40	47.6								
	Rob. . . . .			57.05*			48.0*								
	Ay., 1860 . . . . .			57.01			47.0								
	Ay., 1864 . . . . .			57.03			47.0	5575	M. . . . .	16	33	16.45	53	10	32.6
	Wn. . . . .			56.91					Rob. . . . .			16.38			34.7
	Ad. . . . .			56.98			47.2		Ay., 1869 . . . . .			16.66			35.1
									Ad. . . . .			16.50			34.0
5497	Ay., 1840 . . . . .	16	20	55.24	44	58	33.4								
	R. C. . . . .			55.24			34.6	5596	M. . . . .	16	35	21.14	49	10	24.6
	Ja. . . . .			54.84			32.3		Rob. . . . .			21.25			25.9
	Ad. . . . .			55.24			33.3		Ay., 1860 . . . . .			21.44			24.9
									Wn. . . . .						
5499	R. C. . . . .	16	21	20.30	52	34	29.2		Ad. . . . .			21.26			25.0
	Ja. . . . .			19.74			30.0								
	Ad. . . . .			20.30			29.4	5599	Ay., 1845 . . . . .	16	35	28.74	56	15	35.6
5502	St. . . . .	16	21	41.51	55	29	22.7		H. . . . .			29.05			36.4
	Ay., 1868 . . . . .			41.47			24.3		R. C. . . . .			28.98			36.2
	Ad. . . . .			41.50			23.2		Ja. . . . .			28.44			36.0
									Ad. . . . .			28.92			35.8
5503	R. C. . . . .	16	21	50.28	52	00	01.4								
	Ja. . . . .			49.59			01.0	5604	St. . . . .	16	36	34.51	31	49	49.5
	Ad. . . . .			50.28			01.1		R. C. . . . .			34.53			51.0
5515	M. . . . .	16	23	12.57	32	58	[49.8]		Ay., 1864 . . . . .			34.52			49.4
	T. . . . .						41.2		Ay., 1868, 1869 . . . . .			34.52			50.2
	Rob. . . . .						41.2		Eng. . . . .			34.51			49.2
	Ay., 1864 . . . . .			12.57			43.9		Arg. . . . .			34.62			50.2
	Main . . . . .			12.56			42.3		Leid. . . . .						50.4
	Ad. . . . .			12.57			43.9		Sm. . . . .			34.53			
							43.4		Ad. . . . .			34.53			50.0
5523	M. . . . .	16	24	32.19	42	09	30.7								
	Rob. . . . .			32.43				5615	H. . . . .	16	38	36.99	36	44	42.7
	Ay., 1860 . . . . .			32.32			29.5		Ja. . . . .			36.52			41.3
	Ad. . . . .			32.31			30.1		Ay., 1864 . . . . .			36.91			41.7
									Sm. . . . .			37.04			42.2
5534	M. . . . .	16	26	49.35	33	47	00.3		Ad. . . . .			36.95			42.0
	Ay., 1864 . . . . .			49.26			46	5617	American Nautical Almanac star.						
	Main . . . . .			49.27*			47								
	Ad. . . . .			49.30			46	5619	T. . . . .	16	39	15.22	34	16	11.2
									H. . . . .			15.05			12.0
5535	T. . . . .	16	26	40.30	49	14	02.9		Main . . . . .			15.08			13.2
	R. C. . . . .			40.39			03.1		Ad. . . . .			15.12			12.4
	Rob. . . . .			40.29			05.0								
	Ad. . . . .			40.33			03.4	5629	Ay., 1845 . . . . .	16	40	24.79	55	55	11.2
5541	M. . . . .	16	28	36.76	30	45	43.8*		R. C. . . . .			24.88			11.1
	Rob. . . . .			36.95			44.1		Ay., 1850 . . . . .						13.6
	Ay., 1864 . . . . .			36.92			44.5		Ja. . . . .			24.46			11.0
	Main . . . . .			36.72			45.0		Ad. . . . .			24.84			11.0
	Ad. . . . .			36.84			44.2	5643	St. . . . .	16	42	55.69	57	00	20.5
5546	T. . . . .	16	29	20.09	38	20	57.7		Ay., 1868 . . . . .			55.66			21.5
	H. . . . .			19.85			58.3		Eng. . . . .			55.78			20.4
	R. C. . . . .			19.93			59.1		Ad. . . . .			55.71			20.7
	Rob. . . . .			19.95			21	5644	R. C. . . . .	16	43	19.81	42	27	46.9
	Ad. . . . .			19.95			20		Ja. . . . .			19.31			45.6
									Ay., 1864 . . . . .			19.80			45.3
5549	R. . . . .	16	29	39.27	50	24	21.0		Ad. . . . .			19.80			45.8
	R. C. . . . .			39.18			22.3								
	Ja. . . . .			38.86			19.4	5652	M. . . . .	16	44	23.57	30	10	52.8
	Ad. . . . .			39.20			20.5		Rob. . . . .			23.56			53.0
5552	St. . . . .	16	30	04.43	42	41	45.2		Ay., 1864 . . . . .			23.59			49.9
	Ay., 1869 . . . . .			04.44			45.9		Main . . . . .			23.57			48.3
	Leid. . . . .						45.5		Ad. . . . .			23.57			50.9
	Ad. . . . .			04.43			45.6	5658	T. . . . .	16	44	17.63	55	37	55.5
5559	R. C. . . . .	16	30	56.04	52	29	50.2		H. . . . .			17.51			55.4
	Ja. . . . .			55.19			49.4		R. C. . . . .			17.49			55.3
	Ad. . . . .			56.04			50.0		R. C. . . . .			17.38			55.2
									Ad. . . . .			17.50			55.3

No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
5666	M. . . . . Rob. . . . . Ay., 1860 . . . . . Wn. . . . . Ad. . . . .	16 45 46.29 46.30 46.22 14.7 46.27	30 01 16.8 16.6 16.4 14.7 16.0	5797	T. . . . . H. . . . . R. C. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	17 05 08.60* 08.98 08.98 08.76* 09.11 09.34	58 25 59.0 58.2 59.0 58.3 57.4 55.4
5667	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	16 45 34.46 34.56 34.59 34.54	46 12 06.1 07.3 06.9 06.6	5801	T. . . . . H. . . . . R. C. . . . . Wn. . . . . Ad. . . . .	17 05 23.71 23.90 23.77 23.92 23.82	55 55 35.8 37.8 37.1 38.7 37.3
5693	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	16 48 13.67 13.42 13.68 13.59	31 54 36.7 35.5 36.1	5834	St. . . . . Ay., 1869 . . . . . Ad. . . . .	17 10 41.70 41.61 41.67	36 57 04.8 04.0 04.5
5706	T. . . . . H. . . . . R. C. . . . . Rob. . . . . Arg. . . . . Ad. . . . .	16 50 43.73 43.66 43.71 43.77 43.81 43.72	46 44 31.3 32.9 32.4 32.8 32.9 32.3	5842	M. . . . . Rob. . . . . Wn. Mur. . . . . Ad. . . . .	17 12 42.46 42.39 42.43	33 14 09.7 09.0* 09.5
5731	St. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	16 55 30.46 30.42 30.48 30.47 30.46	31 06 41.8 42.6 42.5 42.2 42.2	5847	M. . . . . Rob. . . . . Q. . . . . Ay., 1860 . . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	17 13 21.70 21.62 21.73 21.64 21.65 21.60 21.63 21.65	37 25 25.8 24.8 26.3 25.0 24.3 24.7 24.1 24.9
5747	American Nautical Almanac.			5853	T. . . . . H. . . . . R. C. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	17 13 37.87 37.58 37.59 37.75 37.70	49 49 30.6 33.3 33.5 32.9 32.5
5752	T. . . . . Ay., 1845 . . . . . R. C. . . . . R. C. <sub>2</sub> . . . . . Wn. . . . . Ad. . . . .	16 57 03.88 04.13 04.24 03.97 04.12 04.07	56 52 21.7 20.8 20.8 20.8 21.2 20.9	5863	M. . . . . Rob. . . . . Q. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Wn. . . . . Sm. . . . . Ad. . . . .	17 15 59.00 58.95 58.98 58.95 58.98 59.02 58.97	32 37 48.1 48.3 46.5 49.0 46.3 46.5 47.2
5763	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	16 59 01.16 01.14 00.98 01.09	35 35 31.8 30.9 30.2 30.8	5871	M. . . . . Rob. . . . . Leid. . . . . Ay., 1869 . . . . . Ad. . . . .	17 16 49.00 49.31 49.32 49.21	46 21 50.3 51.4 51.2 51.9 51.1
5775	T. . . . . Ay., 1840 . . . . . R. C. . . . . Ad. . . . .	17 01 16.47 16.50 16.54 16.50	43 58 58.5 59.5 59.8 59.3	5874	R. . . . . H. . . . . R. C. . . . . Ja. . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	17 17 [37.25*] 37.41 37.59 37.10 37.53 37.60 37.50	40 05 56.9* 57.3 56.5 54.7 55.1 55.6 53.9
5776	T. . . . . H. . . . . R. C. . . . . Rob. . . . . Sm. . . . . Ad. . . . .	17 01 30.79 30.65 30.67 30.74 30.87 30.71	48 58 40.1 40.1 39.3 41.8 38.7 40.0	5886	M. . . . . Rob. . . . . Q. . . . . R. C. <sub>2</sub> . . . . . Wn. . . . . Leid. . . . . Ay., 1869 . . . . . Ad. . . . .	17 19 22.43 22.49 22.34 22.22 22.28 22.35	37 15 43.2 43.7 45.1 45.0* 42.8 43.6 43.2
5777	M. . . . . Ja. . . . . Main . . . . . Sm. . . . . Ad. . . . .	17 02 12.99 12.23 12.88* 12.96 12.93	35 29 [37.1] 27.1 26.4* 26.2* 26.7	5895	M. . . . . Ja. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Ad. . . . .	17 20 07.31 07.12 07.30 07.30	37 [03 57.7] 50.4 50.4 50.9 50.5
5785	M. . . . . Rob. . . . . Q. . . . . Ay., 1869 . . . . . Leid. . . . . Ad. . . . .	17 02 44.56 44.62 44.74 44.64	54 38 07.1 07.5 [11.3] 08.3 08.1 07.7	5902	T. . . . . H. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	17 21 12.70 12.83 12.81 12.79 12.78	57 07 30.8 30.3 30.9 [33.9*] 30.6
5788	T. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	17 03 [35.95] 36.25 36.22 36.25 36.22	36 05 55.0 55.2 55.7 56.8 55.9	5911	St. . . . . Wn. . . . . Ad. . . . .	17 23 25.36 25.57 25.43	48 21 55.9 57.6 56.5
5790	St. . . . .	17 03 41.90	40 40 50.1				
5795	T. . . . . R. C. . . . . Wn. Tran. and Mur. . . . . Wn. . . . . Ad. . . . .	17 05 13.15 13.11 13.13* 13.13 13.13	51 00 04.1 06.2 07.3* 05.2 05.4				

No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
5918	T. . . . . H. . . . . R. C. . . . . Rob. . . . . Pulc. . . . . Ad. . . . .	17 24 [12.05] 12.52 12.45 12.37 24.0 12.45	58 45 23.4 23.6 23.6 24.0 24.0 23.6	6052	M. . . . . Rob. . . . . Q. . . . . R. C. . . . . Wn. . . . . Ad. . . . .	17 46 04.98 05.23 05.14* 04.92 05.30 05.11	50 48 40.4 41.0 41.2 41.2 (30.7) 40.7
5927	T. . . . . H. . . . . Rob. . . . . Main . . . . . Ad. . . . .	17 26 11.43 11.34 11.30 11.42 11.37	31 15 08.5 09.1 09.1 09.8 09.2	6056	M. . . . . Rob. . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	17 46 47.01 47.06 47.19 47.06 47.08	48 25 41.3 43.8 43.0 43.2 42.7
5929	R. C. . . . . Ja. . . . . Ad. . . . .	17 26 29.67 29.20 29.67	38 58 35.9 35.4 35.7	6062	M. . . . . H. . . . . Rob. . . . . Ad. . . . .	17 47 <sup>8</sup> 56.67 48 00.65 00.66	40 00 36.8 37.0 38.2 37.2
5937	American Nautical Almanac	star.		6068	M. . . . . R. C. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	17 49 12.46 13.84 13.87 13.96 13.89	40 01 57.4 58.3 56.9 57.4
5944	R. . . . . H. . . . . R. C. . . . . Ja. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Wn. . . . . Ad. . . . .	17 29 09.65 09.41 09.48 09.66 09.56* 09.46 09.45 09.42 09.49	41 19 58.5 20 01.2 01.1 00.3 19 59.6 58.9 59.4 58.6 59.3	6079	St. . . . . R. C. . . . . Ad. . . . .	17 51 22.12 22.07 22.10	56 53 34.1 33.7 34.0
5950	St. . . . . R. C. . . . . Wn. . . . . Ad. . . . .	17 29 42.90 42.93 42.95 42.92	55 16 12.4 11.0 13.4 12.2	6082	St. . . . .	17 51 57.98	37 16 05.6
5951	St. . . . . R. C. . . . . Wn. . . . . Ad. . . . .	17 29 48.31 48.23 48.25 48.28	55 15 30.6 30.2 31.8* 30.6	6087	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1868 . . . . . Ad. . . . .	17 53 43.44 43.24 43.24 43.28* 43.30	30 12 03.6 04.8 02.8 03.75* 03.6
5962	T. . . . . R. . . . . H. . . . . Rob. . . . . Main . . . . . Ad. . . . .	17 31 [50.99] 51.15* 51.07 51.23 51.36 51.20	30 51 48.3 48.2* 50.1 50.1 50.2 49.6	6091	American Nautical Almanac	star.	
5975	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	17 33 21.54 21.48 21.66 21.56	48 39 30.4 33.3 32.6 31.9	6095	R. C. . . . . Ja. . . . . Ad. . . . .	17 54 10.71 (16.32) 10.71	43 25 44.4 45.4 44.7
5986	T. . . . . R. . . . . H. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Ad. . . . .	17 35 14.21 14.26 14.17 14.38 14.32 14.27	31 16 10.9 12.4 12.2 11.1* 11.5 10.1 11.4	6109	T. . . . . H. . . . . R. C. . . . . Wn. . . . . Ad. . . . .	17 56 21.91 21.92 22.00 21.96	45 30 29.4 30.3 31.1 29.1 30.1
5990	St. . . . . Ay., 1845 . . . . . R. C. . . . . Rob. . . . . Ay., 1850 . . . . . R. C. . . . . Pulc. . . . . Ad. . . . .	17 35 [56.48] 56.26 56.15 56.14 56.14 56.11 56.17 56.17	46 04 24.5 58.6 55.4 56.8 26.2 25.1	6129	R. . . . . Ay., 1845 . . . . . H. . . . . R. C. . . . . Ja. . . . . Ay., 1860 . . . . . Ad. . . . .	17 59 52.83 52.88 52.81 52.88 52.39 52.96 52.87	48 27 34.0 33.4 32.9 33.2 32.4 32.9 33.0
5997	St. . . . . Ay., 1845 . . . . . R. C. . . . . Rob. . . . . Ay., 1850 . . . . . R. C. . . . . Pulc. . . . . Ad. . . . .	17 36 50.40 50.45 49.96 50.42 56.14 56.11 56.17 56.17	43 [32 02.6*] 31 58.6 55.4 56.8 26.2 25.1	6147	M. . . . . Rob. . . . . Q. . . . . Ay., 1864 . . . . . Main . . . . . Ad. . . . .	18 02 16.81 16.83 16.84 16.84 16.83	30 32 43.1 44.2 43.9 42.5 44.0 43.5
6013	R. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	17 39 23.05 23.32 23.07 23.18	44 08 23.8 23.3 23.6 23.3	6162	H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	18 03 42.74 42.89 42.76 (42.31) 42.80	43 26 51.2 51.2 53.3 50.4 51.3
6036	H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	17 43 46.71 46.84 46.25 46.78	47 39 22.8 21.7 21.8 22.0	6178	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Wn. Tran. . . . . Ad. . . . .	18 07 12.19 11.96 12.01 12.05 11.85 12.03	31 22 29.4 30.0 30.3 31.2 30.1 30.1
				6184	R. C. . . . . Ja. . . . . Ad. . . . .	18 07 48.62 48.06 48.62	56 14 19.2 18.7 18.8

§ Mädler, 1' = 4" in error.

## CATALOGUE OF STARS.

27

No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	No.	Authority.	Right Ascension, 1875.0.	Declination, 1870.0.
		h. m. s.	° ' "			h. m. s.	° ' "
6185	R. . . . .	18 07 57.48	54 14 53.2	6311	R. C. . . . .	18 24 58.04	59 37 40.5
	H. . . . .	57.37	52.7		Rob. . . . .	58.15	38.4
	R. C. . . . .	57.53	50.6		Ja. . . . .	57.61	38.5
	Rob. . . . .	57.45	52.3		Ad. . . . .	58.10	38.5
	Ay., 1845 . . . . .	57.46	51.2	6318	R. . . . .	18 25 58.70	59 28 (01.2*)
	Ja. . . . .	57.08	53.5		Ay., 1845 . . . . .	58.74	27 57.5
	R. C. . . . .	57.47	54.3		R. C. . . . .	58.69	56.8
	Wn. . . . .	57.86	57.5		Ja. . . . .	58.36	59.1
	Ad. . . . .	57.91	58.3		Pulc. . . . .	58.70	58.2
6193	R. . . . .	18 08 54.55	38 44 21.7		Ad. . . . .		58.0
	R. C. . . . .	54.64	23.1	6335	R. C. . . . .	18 29 19.85	52 01 20.6
	Ja. . . . .	54.30	22.8		Rob. . . . .	19.78	20.2
	Wn. . . . .	54.60	22.7		Ja. . . . .	19.21	20.5
	Ad. . . . .	54.60	22.4		Ad. . . . .	19.82	20.2
6203	St. . . . .	18 11 45.25	42 07 03.3	6348	M. . . . .	18 30 24.99	56 57 00.0
	Ay., 1864 . . . . .	45.44	03.8		Rob. . . . .	25.14	00.8
	Ad. . . . .	45.31	03.5		Ad. . . . .	25.06	00.2
6216	R. . . . .	18 12 29.62	56 32 45.4	6349	M. . . . .	18 31 10.49	38 47 37.8
	Ay., 1845 . . . . .	29.51	44.5		Rob. . . . .	10.69	38.7
	R. C. . . . .	29.78	44.9		Q. . . . .	10.51	37.6
	Rob. . . . .	29.48	45.6		R. C. . . . .	10.44	37.9
	Ay., 1850 . . . . .		44.6		Ad. . . . .	10.53	
	Ja. . . . .	29.35	44.5	6350	H. . . . .	18 31 06.44	52 15 19.2
	Ad. . . . .	29.60	44.5		R. C. . . . .	06.55	17.8
6218	R. . . . .	18 13 09.02	40 53 13.7*		Rob. . . . .	06.59	18.0
	Ay., 1845 . . . . .	09.29	16.3		Ja. . . . .	05.97	17.8
	H. . . . .	09.31	16.7		Ay., 1860 . . . . .	06.52	17.9
	R. C. . . . .	09.39	17.4		Ad. . . . .	06.52	18.0
	Rob. . . . .	09.27	16.2	6355	American Nautical Almanac	star.	
	Ja. . . . .	08.87	17.6	6357	T. . . . .	18 33 (58.46)	39 33 31.3
	Ay., 1860 . . . . .	09.19	16.8		R. C. . . . .	58.81	32.1
	Ad. . . . .	08.70	17.9		Rob. . . . .		33.5
6235	M. . . . .	18 15 28.95	36 00 33.2		Wn. . . . .	58.82	31.7
	Rob. . . . .	28.82	32.3		Ad. . . . .	58.82	32.2
	Q. . . . .	28.87		6364	R. . . . .	18 35 31.28	40 49 18.4
	Ay., 1860 . . . . .	28.88	32.5		Rob. . . . .		18.8
	Ad. . . . .	28.88	32.5		Ja. . . . .	30.98	18.1
6246	Ay., 1845 . . . . .	18 17 00.40	51 17 38.2		Ad. . . . .	31.28	18.1
	H. . . . .	00.40		6365	T. . . . .	18 35 57.71	38 15 07.4
	R. C. . . . .	00.56	38.7		R. C. . . . .	57.92	08.2
	Ja. . . . .	00.15	37.8		Ay., 1864 . . . . .	57.93	07.3
	Ad. . . . .	00.48	37.9		Ad. . . . .	57.85	07.8
6252	R. . . . .	18 17 59.20	49 39 53.1	6368	M. . . . .	18 36 05.16	55 07 47.9
	R. C. . . . .	59.17	54.6		Rob. . . . .	05.19	50.2
	Ja. . . . .	58.64	53.9		Ja. . . . .	04.65	47.7
	Ad. . . . .	59.18	53.4		R. C. . . . .	04.99	48.3
6255	R. . . . .	18 18 20.84	49 03 30.4		Wn. . . . .	05.00	48.6
	Ay., 1845 . . . . .	20.86	31.8		Ad. . . . .	05.08	48.4
	H. . . . .	20.86	31.2	6372	T. . . . .	18 37 00.45	52 04 43.3
	R. C. . . . .	20.93	31.9		R. . . . .	00.23	43.2
	Rob. . . . .	20.89	32.3		H. . . . .	00.23	44.3
	Ja. . . . .	20.54	31.6		R. C. . . . .	00.48	42.5
	Qu. . . . .		33.0		Rob. . . . .	00.29	43.6
	Ay., 1860 . . . . .	20.90	32.5		Leid. . . . .		44.4
	Ad. . . . .	20.88	31.5		Ad. . . . .	00.34	43.7
6258	R. . . . .	18 18 32.96	51 14 27.4	6390	St. § . . . . .	18 40 11.89	39 32 26.5
	Ay., 1845 . . . . .	33.03	28.0		R. C. . . . .	11.73	28.0
	R. C. . . . .	33.03	29.6		Ay., 1869 . . . . .	11.89	25.8
	Ja. . . . .	32.43	30.0		Leid. . . . .		25.0
	Wn. Tran. . . . .	33.36			Ad. . . . .	11.85	26.1
	Ad. . . . .	33.05	28.4	6391	St. . . . .	18 40 14.23	39 28 58.6
6268	M. . . . .	18 20 06.66	39 26 23.8		R. C. . . . .	14.18	59.1*
	Rob. . . . .	06.79	26.3		Ad. . . . .	14.20	58.7
	Ay., 1864 . . . . .	06.74	23.9				
	Ad. . . . .	06.73	24.5				
6289	St. . . . .	18 22 04.91	58 43 43.5				

§ Reduced to the mean of the two stars.

No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.			No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.		
		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
6392	M. . . . .	18	40	28.06	37	29	17.4	6466	M. . . . .	18	50	07.94	36	44	27.5
	Rob. . . . .			27.99		28	32.1		Rob. . . . .			07.73			27.6
	Ay., 1860 . . . . .			28.10			31.1		Ay., 1860 . . . . .			07.98			26.9
	R. C. . . . .			28.07			32.2		Main . . . . .			07.94			29.2
	Ay., 1864 . . . . .			28.05			31.6		Ad. . . . .			07.90			27.8
	Main . . . . .			27.91											
	Ad. . . . .			28.07			31.6	6468	M. . . . .	18	50	[17.35]	33	48	36.9
6394	M. . . . .	18	40	29.93	37	27	53.3		Rob. . . . .			17.88			36.8
	Rob. . . . .			29.99			53.4		Ja. . . . .			17.44			35.8
	Ay., 1860 . . . . .			29.90			53.5		Sm. . . . .			17.64			35.2
	R. C. . . . .			30.10			51.8		Ad. . . . .			17.70			36.0
	Ay., 1864 . . . . .			29.89			53.9	6470	R. . . . .	18	50	07.62	50	33	13.6
	Ad. . . . .			29.95			53.1		H. . . . .			07.67			13.6*
6395	M. . . . .	18	40	12.62	55	24	46.9		R. C. . . . .			07.64			13.6
	Rob. . . . .			12.44			46.7		Ja. . . . .			07.34			12.4
	Wn. . . . .			12.76			48.2		Ou. . . . .						13.3
	Ad. . . . .			12.61			47.1		Ad. . . . .			07.64			12.9
6404	R. . . . .	18	42	[12.55]	41	18		6473	H. . . . .	18	50	51.84	41	26	37.6
	H. . . . .			13.11			30.5		R. C. . . . .			52.01			37.8
	R. C. . . . .			13.29			30.8		Ja. . . . .			51.86			37.4
	Ja. . . . .			12.61			30.7		Ad. . . . .			51.92			37.5
	Ad. . . . .			13.29			30.5	6475	St. . . . .	18	51	31.87	43	46	56.0
6419	R. . . . .	18	43	55.34	52	51	05.6		Ay., 1866, 1869 . . . . .			31.88			57.1
	R. C. . . . .			55.44			04.6		Ad. . . . .			31.87			56.4
	Rob. . . . .			55.36			06.3	6476	T. . . . .	18	51	29.44	48	42	13.6
	Ja. . . . .			55.26			05.0		R. . . . .			29.50			14.9
	Ay., 1860 . . . . .			55.48			04.5		H. . . . .			29.27			15.7
	Ad. . . . .			55.40			04.8		R. C. . . . .			29.42			14.2
6421	R. C. . . . .	18	44	16.01	49	17	39.1		Ad. . . . .			29.41			13.9
	Ja. . . . .			15.65			37.2	6477	R. C. . . . .	18	51	36.10	57	19	41.5
	Ay., 1860 . . . . .			14.80*			39.6*		Ja. . . . .			36.57			42.5
	Ay., 1864 . . . . .			15.97			38.8		Ad. . . . .			36.10			41.8
	Ad. . . . .			15.90			38.4	6480	M. . . . .	18	52	20.50	32	44	30.9
6426	M. . . . .	18	45	07.06	32	40	11.5		Rob. . . . .			20.48			32.3
	Rob. . . . .			06.83			13.0		Ja. . . . .			20.30			31.2
	R. C. . . . .			06.68			12.0		R. C. . . . .			20.37			31.5
	Ay., 1864 . . . . .			06.80			11.4		Ay., 1864 . . . . .			20.39			31.9
	Ad. . . . .			06.77			11.8		Sm. . . . .			20.37			29.9
6427	M. . . . .	18	45	12.80	32	24	29.1		Ad. . . . .			20.44			31.2
	Rob. . . . .			12.94			30.2	6491	St. . . . .	18	54	16.10	32	31	09.4
	R. C. . . . .			12.74			29.3		R. C. . . . .			15.98			09.3
	Ay., 1864 . . . . .			12.87			29.1		Ad. . . . .			16.07			09.4
	Wn. . . . .			12.85			28.6	6493	Str. . . . .				40	30	32.3
	Ad. . . . .			12.84			29.2		R. C. . . . .	18	54	41.20			30.5
6428	R. . . . .	18	44	(58.15*)	48	37	29.2*		Ja. . . . .			40.97			31.9
	Ay., 1845 . . . . .			58.30			29.2		Ad. . . . .			41.20			31.6
	H. . . . .			58.26			29.8	6495	R. . . . .	18	54	59.68	39	02	44.4
	R. C. . . . .			58.45			29.6		R. C. . . . .			59.83			43.8
	Rob. . . . .			58.41			31.2		Ja. . . . .			59.40			43.4
	Ja. . . . .			57.76			30.7		Ad. . . . .			59.76			43.7
	Ou. . . . .						30.4	6496	M. . . . .	18	54	38.18	57	38	57.9
	Ay., 1860 . . . . .			58.40			31.0		Rob. . . . .			38.11			57.8
	Ad. . . . .			58.39			30.2		Ay., 1860 . . . . .			38.18			59.0
6429	American Nautical Almanac	star.							Ad. . . . .			38.16			58.1
6452	R. . . . .	18	48	47.14	52	48	39.9*	6497	M. . . . .	18	55	17.96	31	58	17.4
	H. . . . .			47.04			42.8		Rob. . . . .			17.96			16.4
	R. C. . . . .			46.95			42.3		Ay., 1864 . . . . .			17.97			18.7
	Rob. . . . .			47.01			41.7		Main . . . . .			17.85			18.8
	Ja. . . . .			46.60			43.3		Ad. . . . .			17.94			17.7
	Ay., 1860 . . . . .			47.14*			47.8	6500	T. . . . .	18	55	24.56	58	03	09.8
	Ay., 1864 . . . . .			47.08			48.8		R. . . . .			24.71			12.8
	Ad. . . . .			47.04			50.9		R. C. . . . .			24.70			12.3
6456	M. . . . .	18	49	21.62	36	48	57.9		Rob. . . . .			24.67			12.5
	Rob. . . . .			21.59			60.8		Wn. . . . .			24.81			14.0
	Ay., 1860 . . . . .			21.61			59.1		Ad. . . . .			24.69			12.4
	Main . . . . .			21.57			59.6	6516	R. . . . .	18	57	41.25	47	51	31.0*
	Ad. . . . .			21.60			59.2		R. C. . . . .			41.25			29.4
6463	St. . . . .	18	49	21.24	59	14	09.3		Ja. . . . .			40.98			29.1
	Pulc. . . . .						09.0		Ad. . . . .			41.25			29.2
	Ay., 1864 . . . . .			21.40			09.9								
	Leid. . . . .						09.5								
	Ad. . . . .			21.28			09.3								

No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
6520	T. . . . .	18 57 54.11	46 45 32.7	6599	St. . . . .	19 12 01.78	37 54 42.5
	R. . . . .		[30.0*]				
	H. . . . .		33.5	6601	M. . . . .	19 11 41.26	57 29 21.6
	R. C. . . . .		32.5		Rob. . . . .	41.06	23.4
	Rob. . . . .		34.6		Ad. . . . .	41.16	22.2
	Ad. . . . .		30.4				
6522	M. . . . .	18 58 14.81	55 28 45.0	6603	R. . . . .	19 12 03.53*	49 51 01.5*
	Rob. . . . .		46.4		R. C. . . . .	03.65	03.5
	Ad. . . . .		45.4		Ja. . . . .	03.28	02.3
					Ad. . . . .	03.61	02.4
6530	Ay., 1845 . . . . .	18 59 10.45	52 04 49.6	6623	St. . . . .	19 14 12.70	53 08 17.8
	R. C. . . . .		50.2		Ay., 1864 . . . . .	12.76	18.4
	Ja. . . . .		47.9		Ay., 1868-69 . . . . .	12.73	18.0
	Ad. . . . .		49.1		Leid. . . . .		18.7
6534	Ja. . . . .	19 00 11.68	31 33 32.8		Ad. . . . .	12.72	18.2
	Wn. . . . .		32.2				
	Sm. . . . .		32.6*	6624	R. C. . . . .	19 14 47.41	40 07 51.0
	Ad. . . . .		32.4		Ja. . . . .	47.05	52.1
6551	M. . . . .	19 02 06.47	53 12 17.2		Ay., 1864 . . . . .	47.35	51.3
	Rob. . . . .		19.2		Ad. . . . .	47.38	51.3
	Wn. . . . .		19.4				
	Ad. . . . .		18.5	6626	R. . . . .	19 15 17.32	49 20 16.8
6553	M. . . . .	19 02 41.87	32 18 22.7		R. C. . . . .	17.68	18.2
	Rob. . . . .		23.4		Ja. . . . .	17.34	16.0
	R. C. . . . .		23.0		Ay., 1864 . . . . .	17.81	18.0
	Ay., 1864 . . . . .		21.3		Ay., 1868 . . . . .	17.79	18.3
	Wn. . . . .		20.3		Ad. . . . .	17.76	17.2
	Ad. . . . .		22.0				
6556	St. . . . .	19 02 50.50	35 54 18.2	6635	R. . . . .	19 16 50.55*	54 08 [43.0*]
	Main . . . . .		20.1		Ay., 1845 . . . . .	50.63	39.3
	Wn. . . . .		19.3		R. C. . . . .	50.81	38.6
	Ay., 1866-69 . . . . .		19.0		Ja. . . . .	50.41	39.3
	Ad. . . . .		19.0		Ad. . . . .	50.72	38.7
6566	R. . . . .	19 05 21.56	50 09 45.6	6640	R. . . . .	19 17 58.42	57 24 34.2
	Ay., 1845 . . . . .		47.0		H. . . . .	58.41	33.8
	R. C. . . . .		45.9		R. C. . . . .	58.44	32.0
	Ja. . . . .		47.1		Ja. . . . .	58.10	34.1
	Wn. . . . .		45.9		Ad. . . . .	58.44	33.1
	Ad. . . . .		45.8				
6567	M. . . . .	19 05 59.08§	31 [26 §07.3]	6651	M. . . . .	19 19 36.74	36 12 18.7
	Ja. . . . .		53.7		T. . . . .		20.2
	R. C. . . . .		55.6		Rob. . . . .	36.95	20.9
	Main . . . . .		54.7*		H. C. . . . .		21.2
	Sm. . . . .		54.6		Ay., 1864 . . . . .	36.85	22.0
	Ad. . . . .				Main . . . . .	36.79	21.5
6571	M. . . . .	19 06 58.40	31 04 34.8		Ad. . . . .	36.83	
	Rob. . . . .		34.6	6656	R. . . . .	19 19 [59.13*]	43 08 43.6*
	Ja. . . . .		33.4		H. . . . .	59.33	44.9
	Ay., 1864 . . . . .		33.7		R. C. . . . .	59.37	44.5
	Main . . . . .		35.0		Ay., 1860 . . . . .	59.49	44.3
	Wn. . . . .		33.3		Ja. . . . .	59.03	44.5
	Ad. . . . .		34.0		Ad. . . . .	59.40	44.3
6579	Arg. 196 . . . . .	19 08 50.80	49 37 16.3	6659	T. . . . .	19 20 07.17	50 01 38.8
	Wn. . . . .		15.8		Ay., 1845 . . . . .	06.82	39.8
	Ad. . . . .		16.2		R. C. . . . .	07.01	39.4
6581	M. . . . .	19 09 30.08	38 55 57.2		Rob. . . . .	07.11	40.1
	Rob. . . . .		56.2		Ou. . . . .		38.7
	Ay., 1860 . . . . .		55.2		Ad. . . . .	07.03	39.1
	Main . . . . .		54.8				
	Ad. . . . .		55.7	6667	M. . . . .	19 21 38.91	36 04 05.5
6583	M. . . . .	19 09 18.56	56 38 47.6		Rob. . . . .	39.02	06.8
	Rob. . . . .		48.4		Ay., 1864 . . . . .	39.01	07.3
	Ay., 1860 . . . . .		48.4		Main . . . . .	38.96	06.2
	Wn. . . . .				Wn. . . . .	39.06	04.6
	Leid. . . . .		47.9		Ad. . . . .	38.99	06.0
	Ay., 1869 . . . . .		47.76				
	Ad. . . . .		47.9	6681	T. . . . .	19 23 31.02	57 46 33.4
6593	R. . . . .	19 11 [34.57*]	40 08 28.8*		R. . . . .	31.04	34.6
	R. C. . . . .		32.7		R. C. . . . .	30.98	33.4
	Ja. . . . .		30.6		Rob. . . . .	31.22	33.1
	Ad. . . . .		30.9		Ad. . . . .	31.06	33.2

§ Two observations only.

No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
6687	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1869 . . . . . Leid. . . . . Ad. . . . .	19 24 22.02 22.22 22.23 22.30 59.5 22.38	52 03 57.2 59.0 57.9 59.2 59.5 57.9	6734	St. . . . . Leid. . . . . Engl. . . . . Ad. . . . .	19 33 05.30 59.26 05.29	49 55 55.4 56.9 56.2 56.2
6697	St. . . . . R. C. . . . . Ay., 1869 . . . . . Leid. . . . . Ad. . . . .	19 26 33.20 33.09 33.21 51.25 53.18	51 27 50.3 50.4 50.6 51.25 50.7	6741	T. . . . . R. . . . . R. C. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	19 34 28.38 28.16 28.34 28.42 28.51 28.39	48 59 [30.9] 38.4 40.0 42.5 42.6 43.8
6698	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	19 27 07.50 07.64 07.59 07.50 07.60 07.57	34 11 19.0 18.7 17.3 19.6 16.9 18.2	6745	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	19 35 22.36 22.47 22.29 22.37	42 31 50.0 51.2 49.2 50.0
6711	R. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	19 29 15.09 15.10 14.93 15.10	38 29 25.9 26.4 25.6 25.8	6748	H. . . . . R. C. . . . . Ja. . . . . Ay., 1860 . . . . . Wn. . . . . Ad. . . . .	19 35 52.19 52.29 51.98 52.59 52.53 52.50	54 40 48.8 47.1 48.9 50.0 52.0 49.9
6712	Arg. . . . . Wn. . . . . Ad. . . . .	19 29 03.49 03.51 03.49	58 19 58.8 57.6 58.5	6754	R. . . . . H. . . . . R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	19 36 [58.41] 58.37 58.60 58.01 58.71 58.81	45 13 [37.2] 44.2 43.2 43.3 45.7 46.6
6717	R. . . . . R. C. . . . . Ja. . . . . Ay., 1860 . . . . . Ad. . . . .	19 30 14.96 15.04 14.79 15.19 15.06	48 59 28.3 27.5 27.4 27.0 27.3	6763	M. . . . . Rob. . . . . Q. . . . . Ay., 1860 . . . . . R. C. . . . . Bonn . . . . . Ad. . . . .	19 38 29.27 29.38 29.32* 29.50 29.43 29.49 29.42	50 14 09.1 [13.9] 09.3 07.9 08.9
6718	R. . . . . H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	19 30 36.90 36.53 36.59 36.02 36.67	42 08 23.6 24.7 24.3 23.6 23.8	6764	M. . . . . Rob. . . . . Ay., 1860 . . . . . R. C. . . . . Bonn . . . . . Ad. . . . .	19 38 32.32 32.37 32.30 32.31 32.32	50 13 42.1 [45.6] 42.1 40.0 42.14 41.6
6720	R. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	19 30 46.60* 46.71 46.25 46.67	43 40 18.2* 18.7 17.8 18.0	6765	R. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	19 38 46.81 46.77 46.37 46.79	38 22 25.9 30.6 28.9 28.3
6721	R. C. . . . . Ja. . . . . Wn. Mur. . . . . Wn. . . . . Ad. . . . .	19 31 06.52 [06.33] 06.52 06.52	47 53 36.0 35.2 36.5 35.2 35.6	6769	R. C. . . . . Ja. . . . . Ad. . . . .	19 39 34.64 34.09 34.64	41 28 26.7 26.3 26.5
6722	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Ad. . . . .	19 31 18.80 18.84 18.80 18.84 18.82	36 40 05.6 07.2 07.1 04.8 06.0	6771	St. . . . .	19 39 46.10	37 03 11.9
6723	T. . . . . H. . . . . R. C. . . . . Rob. . . . . R. C. . . . . Leid. . . . . Ad. . . . .	19 31 05.54 05.31 05.40 05.42 05.54 09.8 05.46	50 58 16.4 16.0 15.9 15.2 12.2 09.8 09.2	6777	T. . . . . H. . . . . Rob. . . . . R. C. . . . . Main . . . . . Wn. Tran. . . . . Wn. . . . . Ad. . . . .	19 41 11.76 11.69 11.70 11.81 11.68 11.50* 11.79 11.73	34 42 32.9 33.3 35.2 33.8 35.9 32.5 33.9
6728	R. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	19 32 33.44* 33.71* 33.56 33.62	43 25 38.0 38.0 38.0 37.7	6779	St. . . . . Ay., 1864 . . . . . Wn. . . . . Ay., 1863, 1869 . . . . . Leid. . . . . Ad. . . . .	19 41 04.03 04.06 04.01 04.05 04.04	44 49 35.1 35.8 36.8 35.7 35.3 35.5
6730	M. . . . . Rob. . . . . Q. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Ad. . . . .	19 32 34.84 35.10 34.76* 35.00 34.93 34.92	49 57 32.8 32.4 33.0* 33.6 32.5 32.9	6780	R. . . . . R. C. . . . . Ja. . . . . Ay., 1860 . . . . . Ad. . . . .	19 40 47.85* 47.82 47.51 48.16 48.44	57 43 10.9* 10.5 09.4 08.7 09.4
6731	H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	19 32 45.64 45.82 45.45 45.42	44 25 12.4 12.2 12.0 12.1				

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		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
6784	M. . . . .	19	41	40.86	33	26	17.8	6856	St. . . . .	19	52	23.84	52	06	28.3
	Rob. . . . .			40.82			19.7		R. C. . . . .						28.4
	Ay., 1860 . . . . .			40.83			16.7		Ay., 1869 . . . . .			23.85			28.3
	R. C. . . . .			40.81			16.1		Ad. . . . .			23.84			28.3
	Ay., 1864 . . . . .			40.88			16.5								
	Main . . . . .						15.3*	6857	H. . . . .	19	52	53.27	40	01	58.9
	Ay., 1869 . . . . .			40.94			16.8		R. C. . . . .			53.20			58.6
	Ad. . . . .			40.86			17.1		Rob. . . . .			53.21			58.8
									Ja. . . . .			52.90			57.1
6799	H. . . . .	19	43	47.52	47	35	58.6		Ay., 1860 . . . . .			53.39			59.1
	R. C. . . . .			47.70			57.4		Wn. . . . .						57.6
	Rob. . . . .			47.87			59.2		Ad. . . . .			53.27			58.2
	Ja. . . . .			47.50			58.2								
	Ad. . . . .			47.70			58.1								
6800	T. . . . .	19	44	04.25	33	07	32.1	6860	T. . . . .	19	53	00.43	38	07	20.8
	Rob. . . . .			04.29			33.3		R. C. . . . .			00.20			23.5
	R. C. . . . .			04.54			32.7		Rob. . . . .			00.33			[18.9*]
	Ad. . . . .			04.36			32.7		Ad. . . . .			00.31			22.4
6806	M. . . . .	19	45	02.08	38	23	46.3	6863	R. C. . . . .	19	52	53.13	57	55	15.8
	Rob. . . . .			01.90			46.1		Rob. . . . .			53.22			15.3
	R. C. . . . .			02.16			47.4		Ja. . . . .			52.93			14.6
	Ay., 1864 . . . . .			02.10			46.6		Ad. . . . .			53.18			14.9
	Ad. . . . .			02.06			46.5								
6813	M. . . . .	19	46	08.14	38	24	07.7	6865	Ay., 1845 . . . . .	19	53	19.84	50	34	01.9
	Rob. . . . .			08.29			06.7		H. . . . .			19.95			03.1*
	Ja. . . . .						06.6		R. C. . . . .			19.90			01.6
	R. C. . . . .			08.29			08.0		Rob. . . . .			19.93			01.9
	Ay., 1864 . . . . .			08.24			05.9		Ja. . . . .			19.47			01.5
	Ad. . . . .			08.24			06.8		Ad. . . . .			19.90			01.5
6817	Ay., 1845 . . . . .	19	46	19.91	40	16	58.6	6867	T. . . . .	19	53	32.12	58	30	44.4
	H. . . . .			19.81			58.5		Ay., 1845 . . . . .			32.24			46.6
	R. C. . . . .			19.79			57.7		H. . . . .			32.30			45.6
	Ja. . . . .			19.35			58.2		R. C. . . . .			32.12			45.5
	Ay., 1860 . . . . .			20.05			57.2		Rob. . . . .			32.22			46.9
	Ad. . . . .			19.89			58.0		Ad. . . . .			32.20			45.6
6818	R. C. . . . .	19	46	01.64	59	06	15.5	6875	M. . . . .	19	55	20.07	36	42	04.0
	Ja. . . . .			01.54			26.0		Rob. . . . .			20.22			06.7
	Pulc. . . . .						16.9		R. C. . . . .			20.06			05.8
	Wn. . . . .			01.74			17.4		Ay., 1864 . . . . .			20.17			03.9
	Ad. . . . .			01.69			16.5		Wn. . . . .			20.16			03.4
6824	M. . . . .	19	47	29.37	52	40	16.4		Ay., 1868 . . . . .			20.11			04.2
	Rob. . . . .			29.23			17.2		Ad. . . . .			20.13			04.6
	Ay., 1860 . . . . .			29.51			17.2	6876	H. . . . .	19	55	24.72	45	25	56.1
	Wn. . . . .			29.60			16.4		R. C. . . . .			24.84			55.7
	Ad. . . . .			29.43			16.8		Rob. . . . .			24.89			56.2
6830	H. . . . .	19	48	26.14	47	36	36.5		Ja. . . . .			24.50			55.1
	R. C. . . . .			26.21			34.9	6881	Ad. . . . .			24.82			55.6
	Ja. . . . .			25.63			36.5		T. . . . .	19	55	56.42	51	42	50.0
	Ad. . . . .			26.18			35.8		H. . . . .			56.36			50.7
6847	M. . . . .	19	50	43.37	57	11	45.0		R. C. . . . .			56.53			49.3
	Rob. . . . .			43.62			46.2		Rob. . . . .			56.82			50.0
	Ay., 1864 . . . . .			43.47			46.4	6895	Ad. . . . .			56.74			49.8
	Ad. . . . .			43.49			45.7		M. . . . .	19	57	49.25	49	45	25.9
6849	M. . . . .	19	51	23.68	38	09	20.0		Rob. . . . .			49.45			27.9
	Rob. . . . .			23.81			22.2		Ay., 1860 . . . . .			49.36			26.7
	Ay., 1864 . . . . .			23.70			19.8		Leid. . . . .						27.4
	Ad. . . . .			23.73			19.8		Ad. . . . .			49.35			27.0
6851	M. . . . .	19	51	36.92	34	45	09.9	6915	M. . . . .	20	01	43.12	35	37	45.3
	Rob. . . . .			36.93			09.1		Rob. . . . .			43.22			46.8
	Ay., 1860 . . . . .			37.09			07.8		O. . . . .			43.12			45.5
	R. C. . . . .			36.78					R. C. . . . .			43.09			45.1
	Ad. . . . .			36.93			08.6		Ay., 1864 . . . . .			43.17			43.7
6852	H. . . . .	19	51	20.92	59	22	42.2		Ad. . . . .			43.14			45.2
	R. C. . . . .			20.91			41.3	6918	R. . . . .	20	01	43.21	51	28	52.4
	Rob. . . . .			20.61			42.1		H. . . . .			43.31			53.5
	Ja. . . . .			20.45			42.2		R. C. . . . .			43.33			52.8
	Pulc. . . . .						42.6		Ja. . . . .			42.98			53.0
	Sm. . . . .			21.11			41.2	6924	Ad. . . . .			43.28			52.6
	Ad. . . . .			20.86			42.0		R. . . . .	20	02	30.99	55	58	45.9
									R. C. . . . .			30.79			45.9
									Ay., 1845 . . . . .			31.09			46.8
									Ad. . . . .			30.96			45.9



No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
6928	H. . . . . R. C. . . . . Ja. . . . . Wn. . . . . Ay., 1869. . . . . Ad. . . . .	20 02 55.50 55.59 55.36 56.21 56.16 56.38	52 47 41.9 40.3 42.1 46.5 46.9 48.2	6997	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Ad. . . . .	20 13 47.69 47.72 47.69 47.52 47.66	36 36 32.5 33.6 34.2 34.2 33.5
6937	M. . . . . Rob. . . . . Ay., 1860 . . . . . R. C. . . . . Ad. . . . .	20 04 47.11 47.01 47.19 47.47 47.20	36 28 23.6 23.6 21.7 21.3 22.4	6998	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Ad. . . . .	20 13 50.97 51.26 51.05 51.09	34 35 35.4 36.2 34.4 36.1 35.4
6959	H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ay., 1860 . . . . . Ad. . . . .	20 09 02.92 03.07 03.18 02.91 03.09 03.06	51 05 18.8 17.7 29.0 17.8 16.5 17.8	7001	R. C. . . . . Ja. . . . . Ad. . . . .	20 14 24.52 24.37 24.52	38 36 49.0 50.1 49.3
6962	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ay., 1868 . . . . . Ad. . . . .	20 09 22.20 22.47 22.32* 22.21* 22.32	46 26 16.7 19.4 17.6 19.0* 18.0	7006	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Wn. . . . . Sm. . . . . Ad. . . . .	20 15 07.88 07.83 07.60 07.70 07.61 07.79 07.72	36 44 24.0 24.8 24.0 23.8 23.6 22.8 23.6
6963	R. C. . . . . Ja. . . . . Ay., 1860 . . . . . Ad. . . . .	20 09 30.32 29.91 30.42 30.37	43 00 02.6 02.2 01.6 02.0	7007	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	20 14 57.08 56.86 56.78 56.91	49 06 22.4 23.6 23.6 23.0
6965	St. . . . . Ay., 1869 . . . . . Leid. . . . . Ad. . . . .	20 09 41.72 41.68 41.71	46 21 46.2 46.8 47.1 46.8	7008	R. C. . . . . Rob. . . . . Ja. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	20 15 43.43 43.29 43.15 43.43 43.43 43.38	39 00 35.4 38.4 36.3 34.4* 35.7* 36.1 36.0
6967	M. . . . . Rob. . . . . Q. . . . . R. C. . . . . Ay., 1864 . . . . . Ad. . . . .	20 09 51.06 51.25 51.07 51.17 51.14 51.14	36 25 28.5 29.4 30.0 28.2 28.0 28.7	7022	St. . . . . R. C. . . . . Leid. . . . . Ay., 1869 . . . . . Ad. . . . .	20 17 44.55 44.43 44.43 44.53 44.52	39 51 27.1 28.2 27.0 27.4 27.3
6969	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	20 09 59.17 59.27 59.21 59.22	36 22 21.8 24.7 20.3 21.3	7027	H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ay., 1860 . . . . . Ad. . . . .	20 18 19.08 19.06 19.19 18.65 19.16 19.12	40 37 40.4 39.5 40.1 39.7 37.6 39.5
6976	St. . . . . Wn. . . . . Ad. . . . .	20 10 29.52 29.37 29.50	56 11 08.3 08.3* 08.3	7029	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	20 18 52.10 52.14 52.13 52.12	31 47 16.3 15.1 15.8
6983	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1869 . . . . . Leid. . . . . Ad. . . . .	20 11 36.25 36.49 36.50 36.46 36.46 36.42	47 19 50.7 55.9 50.9 52.0 52.2 52.1	7035	R. C. . . . . Ja. . . . . Ad. . . . .	20 19 47.36 47.12 47.36	54 16 13.4 13.3 13.1
6985	R. C. . . . . Ja. . . . . Ad. . . . .	20 12 05.11 04.94 05.11	49 50 53.7 54.6 54.0	7041	R. C. . . . . Ay., 1850 . . . . . Ja. . . . . Ad. . . . .	20 21 04.60 04.68 04.52 04.64	42 11 48.6 47.1 46.6 47.5
6986	M. . . . . Rob. . . . . Ja. . . . . R. C. . . . . Ay., 1864 . . . . . Ad. . . . .	20 12 28.77 28.73 28.23 28.44 28.58 28.62	39 58 44.5 46.1 44.1 44.2 44.4 44.7	7048	R. C. . . . . Ja. . . . . Ad. . . . .	20 21 33.85 (33.53) 33.85	39 59 35.1 33.9 34.3
6990	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	20 13 10.73 10.83 10.70 10.81 10.76 10.77	37 38 43.0 44.2 41.5 42.0 43.3 42.8	7055	R. C. . . . . Ja. . . . . Ad. . . . .	20 22 18.10 17.80 18.10	54 16 31.2 32.0 31.4
6996	M. . . . . Rob. . . . . Ja. . . . . Ay., 1864 . . . . . Ad. . . . .	20 13 41.33 41.44 40.94 41.44 41.40	40 20 36.4 35.9 36.6 35.3 35.9	7060	R. C. . . . . Ja. . . . . Pulc. . . . . Ad. . . . .	20 22 29.47 29.01 29.47	59 11 31.0 31.2 30.4 30.6
				7061	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	20 22 56.37 56.45 56.34 56.58 56.38 56.42	38 01 51.4 52.7 50.0 50.8 50.1 50.9

No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.			No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.		
		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
7062	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	20	23	13.05 13.04 13.14 13.08 12.06 13.07	48	58	08.8 10.4 09.5 10.2 09.4* 09.6	7119	R. C. . . . . Ja. . . . . Ad. . . . .	21	30	50.52 (50.06) 50.52	41	27	30.7 30.6 31.6
7064	H. . . . . R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	20	23	22.02 22.07 21.85 21.31 22.13	56	13	37.4 37.2 36.6 38.1 37.2	7120	T. . . . . R. C. . . . . Ad. . . . .	20	31	11.93 11.90 11.91	51	25	24.7 25.6 25.0
7073	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	20	24	34.20 34.37 34.37 34.24 34.34 34.31	36	02	18.7 19.7 18.5 19.6 17.7 18.7	7131	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	20	32	26.69 26.78 26.83 . . . . . . 26.77	31	08	11.6 12.6 13.1 13.5 12.5 12.5
7076	M. . . . . R. C. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	20	24	39.01 . . . 39.35 39.22 39.19	48	30	. . . 15.1 15.4 13.9 14.6	7132	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	20	32	28.00 28.07 28.13 . . . . . . 28.07	31	05	15.8 15.5 14.9 14.7 15.9 15.2
7083	Arg. . . . . Ad. . . . .	20	25	51.58 51.58	45	30	17.7 17.7	7153	R. C. . . . . Ja. . . . . Ad. . . . .	20	33	39.60 39.48 39.60	52	32	13.1 14.3 13.5
7084	M. . . . . Rob. . . . . Main . . . . . Wn. . . . . Ad. . . . .	20	26	14.42 14.53 14.43 14.46 14.46	36	30	56.6 56.9 57.0 55.9 56.6	7158	H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	20	34	58.76 58.84 58.57 58.80	40	08	19.7 18.4 19.2 19.0
7085	M. . . . . Rob. . . . . Wn. . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	20	26	11.41 11.54 11.22 11.28 11.36	48	31	55.6 58.0 56.3 56.1 56.4	7161	M. . . . . Ja. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Sm. . . . . Ad. . . . .	20	35	10.09 09.83 10.07 . . . 10.36 . . . 10.15	45	13	. . . 33.2 33.8 33.1 32.6 32.0 32.7
7086	H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Sm. . . . . Ad. . . . .	20	26	19.52 19.60 19.85 19.19 19.85 19.66	55	38	57.4 56.8 57.7 56.4 56.3 56.9	7164	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Ay., 1868 . . . . . Ad. . . . .	20	35	59.05 59.04 59.02 58.92 59.11 59.03	31	51	49.2 49.0 48.7 49.0 50.0 49.1
7091	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	20	27	27.24 27.33 27.41 27.33	48	47	56.4 58.0 55.9 56.6	7166	R. C. . . . . Ja. . . . . Ad. . . . .	20	35	46.18 45.71 46.18	55	33	53.8 54.2 53.8
7100	R. C. . . . . Ja. . . . . Ad. . . . .	20	28	31.24 30.87 31.24	42	45	59.4 58.0 58.5	7167	R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	20	36	19.58 19.84 19.47 19.71	38	38	17.2 17.4 16.0 16.6
7101	R. C. . . . . Ja. . . . . Ad. . . . .	20	28	32.94 32.74 32.94	41	02	49.2 48.9 48.8	7174	H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	20	37	25.55 25.41 25.18 25.48	41	16	13.0 12.2 12.4
7103	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Ad. . . . .	20	29	02.40 02.38 02.47 02.42 02.42	34	49	24.8 25.9 24.6 26.7 25.3	7182	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	20	38	21.52 21.48 21.22 21.44 21.41 21.42	49	53	29.5 31.5 28.6 30.6 30.3 30.3
7105	T. . . . . H. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	20	28	43.32 43.12 43.10 43.29 43.21	56	21	21.6 21.5 20.8 21.5 21.2	7189	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	20	39	10.46 10.40 10.61 10.49	56	56	09.8 09.5 12.6 10.4
7112	H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	20	29	48.93 49.07 48.76 49.00	46	15	57.1 55.9 56.1 56.2	7194	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Main . . . . . Ad. . . . .	20	40	30.15 30.20 29.82 30.14 30.14 30.09	30	15	52.8 52.6 52.0 51.3 51.9 52.0
7114	R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	20	30	05.60 05.33 . . . 05.60	40	40	05.3 05.9 06.5* 05.6	7198	H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	20	40	28.42 28.52 28.08 28.47	46	50	39.3 37.5 38.9 38.4

No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
7204	St. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Leid. . . . . Ad. . . . .	20 41 09.24 09.20 09.38* 09.25 10.4 09.24	33 30 10.8 11.1 10.4 11.6 10.4 10.8	7268	R. C. . . . . Rob. . . . . Wag. . . . . Ja. . . . . Ay., 1860 . . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Wn. . . . . Sm. . . . . Ad. . . . .	20 51 36.59 36.53 36.40 36.18 36.62 36.43 36.64 36.67 36.67 36.55	46 56 21.8 21.8 21.8 22.1 21.6 20.7 20.3 21.5 20.7 21.3
7213	St. . . . . Ay., 1868, 1869 . . . . . Eng. . . . . Leid. . . . . Ad. . . . .	20 42 32.36 32.43 32.39 32.39 32.39	36 01 55.7 56.0 56.3 56.6 55.8	7273	R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	20 52 10.20 09.90 10.29 10.25	44 26 40.5 42.5 40.6 41.1
7215	T. . . . . R. C. . . . . Rob. . . . . Ay., 1845 . . . . . Ay., 1860 . . . . . Ad. . . . .	20 42 15.25 15.10 15.16 15.24 14.94 15.14	57 08 02.8 01.0 01.3 02.7 58.0 55.1	7274	R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	20 52 20.51 20.56 20.02 20.54	48 42 55.0 58.6 55.7 56.1
7218	R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	20 42 44.03 43.40 43.72 43.70	52 32 30.2 29.4 27.8 26.1	7277	American Nautical Almanac	star.	
7219	R. C. . . . . Ja. . . . . Ad. . . . .	20 43 03.48 03.15 03.48	45 07 17.7 17.6 17.5	7278	R. C. . . . . Ja. . . . . Ou. . . . . Ad. . . . .	20 52 27.40 27.11 27.70§ 27.70§	50 14 57.1 56.6 57.8 57.0
7233	M. . . . . Rob. . . . . Wn. . . . . Ad. . . . .	20 44 40.80 40.78 40.84 40.81	45 39 02.7 03.7 04.6 03.5	7281	M. . . . . Rob. . . . . Q. . . . . Ay., 1860 . . . . . Ad. . . . .	20 52 56.59 56.58 56.49 56.48 56.34	56 21 23.2 25.4 23.1 24.4 23.9
7241	M. . . . . Rob. . . . . Q. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Ad. . . . .	20 45 38.51 38.69 38.59 38.42 38.53 38.55	43 35 20.6 21.8 20.8 20.5 20.6 20.8	7290	M. . . . . R. C. . . . . Rob. . . . . Ja. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Wn. . . . . Sm. . . . . Ad. . . . .	20 53 50.84 50.93 51.25 50.61 50.97 51.09 50.93 51.07 51.00	43 59 [09.6] 06.7 06.2 06.7 06.3 07.2 08.1 05.8 06.6
7243	R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	20 45 40.14 39.93 40.20 40.17	50 19 08.2 08.8 07.9 08.1	7294	T. . . . . R. . . . . H. . . . . R. C. . . . . Wn. . . . . Leid. . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	20 54 29.60 (30.00) 29.75 29.69 29.73 29.70 29.70	49 58 36.0 39.0 36.6 37.2 38.4 37.8 37.7 37.6
7253	M. . . . . Rob. . . . . Ja. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	20 48 49.36 49.62 49.25 49.61 49.59 49.49 49.53	43 54 53.1 54.1 52.7 52.6 52.9 53.1 53.1	7297	R. C. . . . . Ja. . . . . Main . . . . . Wn. . . . . Ad. . . . .	20 55 08.07 07.98 08.93 09.09	39 45 48.4 47.5 49.6 51.9
7254	R. . . . . H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	20 48 56.47 56.43 56.57 56.61 (55.91) 56.52	44 42 32.0 32.7 32.6 34.1 33.5 32.7	7301	M. . . . . R. C. . . . . Rob. . . . . Ay., 1864 . . . . . Wn. . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	20 55 34.09 34.34 34.31 34.43 34.46 34.50 34.46	47 02 00.3 01.7 01.2 01.2 01.7 01.2
7259	M. . . . . Rob. . . . . Ja. . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	20 49 27.99 28.00 27.50 28.06 28.06 28.02	43 54 44.4 45.9 45.2 44.6 45.3 45.0	7306	M. . . . . Rob. . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	20 56 48.88 48.99 49.00 49.20 49.02	45 39 58.4 56.0 56.9 55.7 55.9
7260	R. . . . . R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	20 49 42.03 42.12 41.96 42.24 42.16	40 13 38.9 42.1 41.4 40.1 40.9	7310	Rob. . . . . R. C. . . . . Pulc. . . . . Ad. . . . .	20 56 20.52 20.33 20.42	58 57 04.8 02.6 02.4 03.0
7262	T. . . . . R. C. . . . . Ay., 1864 . . . . . Wn. . . . . Ay., 1868 . . . . . Ad. . . . .	20 49 14.06 43.97 44.00 44.01 44.01 44.01	54 02 13.3 12.5 15.6 16.2 17.5 18.2	7313	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	20 57 33.46 33.23 33.46 33.38	39 01 00.6 01.7 00.4 00.9

§ P. M. in Right Ascension probable and allowed for.

No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
7317	R. C. . . . . Ja. . . . . Ad. . . . .	20 57 56.18 56.01 56.18	44 17 54.5 55.2 54.7	7399	M. . . . . Rob. . . . . O. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	21 12 46.84 46.79 46.73 46.59 46.74	34 22 23.4 22.9 24.6 22.6 23.2
7320	M. . . . . Rob. . . . . O. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Ad. . . . .	20 58 13.75 13.86 13.76 13.80 13.95 13.82	38 09 52.9 52.9 52.1 51.3 50.9 51.9	7401	T. . . . . H. . . . . R. C. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	21 13 29.96 29.99 29.93 30.13 29.99 30.00	55 16 22.8 24.0 25.9 25.0 24.6 24.4
7326	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	20 59 11.32 11.21 11.40 11.31	41 08 06.8 06.1 07.1 06.7	7402	M. . . . . Rob. . . . . Ja. . . . . Ay., 1864 . . . . . Ad. . . . .	21 13 47.36 47.27 47.19 47.52 47.38	43 25 14.3 15.0 13.6 13.9 14.0
7332	R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	20 59 58.30 58.10 58.48 58.39	52 47 17.3 19.1 18.0	7411	H. . . . . R. C. . . . . Ja. . . . . Ay., 1860 . . . . . Ad. . . . .	21 15 10.48 10.62 10.37 10.70 10.60	48 58 56.3 56.1 56.7 55.2 56.0
7333	St. . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	21 00 23.06 23.04 23.09 23.06	43 25 47.1 47.8 48.2 47.5	7417	H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ay., 1868 . . . . . Wn. . . . . Sm. . . . . Ad. . . . .	21 15 48.08 48.07 48.06 47.55 48.10 48.17 48.17 48.09	58 05 43.8 43.1 42.1 43.1 43.1 42.1 42.1 42.7
7336	American Nautical Almanac	star.		7431	H. . . . . R. C. . . . . Ja. . . . . Ay., 1860 . . . . . Wn. . . . . Ad. . . . .	21 17 39.63 39.71 39.29 39.93 39.82	48 51 12.3 13.1 12.6 12.5 13.3 14.2
7337	M. . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	21 01 19.26 19.29 19.27	38 08 00.5 07 59.9 08 00.5 08 00.4	7448	R. C. . . . . Ja. . . . . Ad. . . . .	21 19 46.79 46.42 46.79	51 07 13.4 12.9 13.0
7345	M. . . . . Rob. . . . . Ay., 1860 . . . . . Wn. . . . . Ad. . . . .	21 02 17.54 17.59 17.75 17.63	47 08 47.5 48.9 48.2 48.6 48.2	7453	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	21 20 40.43 40.57 40.61 40.54	36 07 41.8 41.3 40.8 41.1
7365	T. . . . . H. . . . . R. C. . . . . Rob. . . . . Wn. . . . . Leid. . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	21 06 23.73 23.69 23.66 23.56 23.68 23.68 23.69 23.67	53 03 11.4 11.9 11.9 13.4 11.4 12.2 12.6 12.0	7455	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	21 20 43.88 44.14 44.26 44.26	46 10 24.4 24.8 25.0 24.6
7373	T. . . . . R. . . . . Rob. . . . . Main . . . . . Wn. . . . . Ad. . . . .	21 08 (25.51) 24.83* 25.10 25.10 24.84* 25.01	36 07 06.0 04.2* 06.0 05.2 05.1 05.6	7462	T. . . . . R. . . . . H. . . . . Rob. . . . . Wn. . . . . Ad. . . . .	21 22 15.64 15.64 15.59 15.55 15.39 15.56	36 34 26.8 26.6 27.3 27.6 27.1
7377	St. . . . .	21 08 37.22	59 28 22.2	7465	T. . . . . H. . . . . Rob. . . . . Main . . . . . Ad. . . . .	21 22 47.47 47.45 47.45 47.67 47.57	31 40 46.6 40.9 43.1 41.6* 41.8
7383	T. . . . . R. C. . . . . R. C. <sub>2</sub> . . . . . Wn. . . . . Ad. . . . .	21 09 31.01 31.00 31.11 31.16 31.07	40 37 42.6 43.5 43.6 43.4 43.3	7468	T. . . . . R. C. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	21 22 37.79 37.51 37.59 37.64 37.63	52 21 20.4 22.4 23.5 22.7 22.0
7385	St. . . . . R. C. <sub>2</sub> . . . . . Wn. . . . . Ad. . . . .	21 09 48.10 48.19 48.32 48.17	37 30 44.5 45.9 45.0	7469	T. . . . . H. . . . . R. C. . . . . Ay., 1845 . . . . . Rob. . . . . Ay., 1850 . . . . . Ad. . . . .	21 22 55.03 55.22 55.06 55.23 55.58 55.24 55.38	45 52 21.2 22.8 23.3 24.0 22.8 22.8
7387	T. . . . . R. C. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Ad. . . . .	21 09 36.41 36.26 36.33 36.21 36.25 36.29	59 34 56.4 57.0 58.1 56.4 57.0 56.8				
7398	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	21 12 30.40 30.27 30.45 30.37	38 52 19.1 19.1 17.8 18.5				

No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
7476	T. . . . .	21 23 58.58	59 12 24.2	7521	M. . . . .	21 31 56.29	39 51 10.5
	R. C. . . . .	58.07	25.0		Rob. . . . .	56.20	11.3
	Rob. . . . .		25.1		Ay., 1864 . . . . .	56.38	09.4
	Pulc. . . . .		23.2		Wn. . . . .	56.36*	10.5*
	Ad. . . . .	58.24	24.0		Ad. . . . .	56.35	09.8
7477	R. C. . . . .	21 24 30.75	43 47 31.3	7524	T. . . . .	21 32 44.21	38 45 17.8
	Ja. . . . .	(30.33)	29.7		R. C. . . . .	44.17	19.6
	Ad. . . . .	30.75	30.3		Rob. . . . .	44.31	20.2
7480	M. . . . .	21 24 50.13	45 59 24.6		Wn. Tran. and Mur. . . . .	44.15	20.5
	Rob. . . . .	50.19	24.8		Wn. Tran. Cir. . . . .	44.32	19.1
	Ay., 1860 . . . . .	50.11	24.0		Ad. . . . .	44.23	19.4
	R. C. <sub>2</sub> . . . . .	50.11	23.7	7530	R. C. . . . .	21 33 29.12	53 28 46.4
	Ay., 1864 . . . . .	50.23	24.6		H. C. . . . .	29.02	45.8
	Ad. . . . .	50.14	24.3		Ad. . . . .	29.07	46.0
7483	H. . . . .	21 26 10.49	52 24 30.7	7544	M. . . . .	21 35 16.71	42 42 25.7
	R. C. . . . .	10.58	30.4		Rob. . . . .	16.92	23.3
	Rob. . . . .	10.64	29.9		Ay., 1860 . . . . .	16.85	25.6
	Ja. . . . .	10.25	31.1		Ay., 1864 . . . . .	16.80	24.1
	Ad. . . . .	10.57	30.4		Wn. . . . .	16.74	24.8
7488	R. C. . . . .	21 27 03.94	51 38 33.3		Ad. . . . .	16.80	24.6
	Ja. . . . .	03.51	33.9	7545	T. . . . .	21 35 04.83	56 55 25.5
	Ou. . . . .		33.8		R. . . . .	04.97*	27.9*
	Ay., 1864 . . . . .	03.98	33.7		H. . . . .	04.77	26.6
	Wn. . . . .	04.10	33.8		R. C. . . . .	04.81	27.6
	Ad. . . . .	04.01	34.8		Rob. . . . .	05.39	28.0
7489	R. C. . . . .	21 27 15.36	52 04 08.2		Ay., 1850 . . . . .	05.20	27.4
	Ja. . . . .	15.09	07.9		R. C. <sub>2</sub> . . . . .	05.06*	25.3
	Ou. . . . .		07.8		Main, 1868 . . . . .	06.08	27.5
	Ad. . . . .	15.36	07.8		Ad. . . . .	05.02	26.7
7494	T. . . . .	21 27 24.60	58 51 57.1	7548	R. C. . . . .	21 35 40.47	49 06 58.7
	H. . . . .	25.26	55.1		Ja. . . . .	40.28	58.3
	R. C. . . . .	25.19	55.4		Ay., 1860 . . . . .	40.62	58.3
	Rob. . . . .	25.53*	57.2		Ad. . . . .	40.55	58.3
	R. C. <sub>2</sub> . . . . .	25.55	54.4	7554	M. . . . .	21 36 32.55	40 14 17.8
	Pulc. . . . .		56.9		Rob. . . . .	32.66	17.9
	Ad. . . . .	25.70	56.9		Ay., 1864 . . . . .	32.71	17.0
7495	H. . . . .	21 27 33.11	59 54 31.6		Ad. . . . .	32.64	17.4
	R. C. . . . .	33.23	31.1	7555	R. . . . .	21 36 34.81	54 18 16.1
	Ja. . . . .	33.00	30.0		R. C. . . . .	34.88	14.1
	Ay., 1860 . . . . .	33.39	30.6		Ja. . . . .	34.46	15.6
	Ad. . . . .	33.24	30.7		Ad. . . . .	34.85	15.1
7496	H. . . . .	21 27 46.55	47 53 32.7	7559	M. . . . .	21 37 21.09	40 30 25.4
	R. C. . . . .	46.55	33.0		Rob. . . . .	21.24	26.1
	Ja. . . . .	46.27	32.1		Ay., 1864 . . . . .	21.23	25.7
	Leid. . . . .		32.0		Ad. . . . .	21.19	25.6
	Ay., 1868, 1869 . . . . .	46.57	32.2	7560	M. . . . .	21 37 39.18	50 37 10.7
	Sm. . . . .	46.72	31.0		Rob. . . . .	39.48	11.4
	Ad. . . . .	46.57	32.2		Ay., 1860 . . . . .	39.37	11.0
7501	M. . . . .	21 28 (36.68)	45 18 (03.8)		Wn. . . . .	39.55	
	R. C. . . . .	36.92	00.2		Ay., 1868, 1869 . . . . .	39.36*	11.6
	Rob. . . . .	37.06	01.2		Ad. . . . .	39.45	11.1
	Ja. . . . .	36.62	01.3	7565	M. . . . .	21 38 04.68	40 35 05.0
	Ay., 1864 . . . . .	36.99	00.5		R. C. . . . .	05.02	04.2
	Wn. . . . .	36.92	17 59.9		Rob. . . . .	05.20	04.1
	Sm. . . . .	36.97	18 58.9		Ay., 1864 . . . . .	05.12	02.8
	Ad. . . . .	36.97	18 00.2		Ad. . . . .	05.11	03.5
7503	M. . . . .	21 29 16.69	45 02 23.1	7566	M. . . . .	21 38 15.41	37 42 44.2
	Rob. . . . .	16.63	35.3		Rob. . . . .	15.38	44.3
	Ay., 1860 . . . . .	16.85	22.7		Wn. . . . .	15.38	43.0
	Ad. . . . .	16.72	23.5		Sm. . . . .	15.63	43.5
7505	M. . . . .	21 29 40.33	37 58 28.2		Ad. . . . .	15.39	43.6
	Rob. . . . .	41.24	29.5	7582	T. . . . .	21 39 40.71	58 12 26.8
	R. C. <sub>2</sub> . . . . .	40.29	28.6		H. . . . .	41.06	25.4
	Ay., 1864 . . . . .	40.32	27.5		R. C. . . . .	40.89	26.3
	Wn. . . . .	40.20	27.9		Rob. . . . .	40.90*	26.3
	Ay., 1868 . . . . .	40.11*	27.5		R. C. <sub>2</sub> . . . . .	40.82	26.5
	Ad. . . . .	40.26	28.3		Bonn . . . . .	40.97	26.1
7512	R. C. . . . .	21 30 08.89	51 08 30.9	7589	R. C. . . . .	21 40 48.30	51 41 31.4
	Ja. . . . .	08.89	31.3		Ja. . . . .	(48.08)	32.5
	Ou. . . . .		31.5		Ou. . . . .		32.7
	Ad. . . . .	08.89	31.1		Ad. . . . .	48.30	32.0

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		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
7593	R. . . . . Ja. . . . . R. C. . . . . Ad. . . . .	21	41	18.77*	42	28	59.1*	7679	R. C. . . . . Ja. . . . . Ad. . . . .	21	57	36.39 36.20 36.39	42	12	42.3 41.3 41.6
7598	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	21	42	10.56 10.62 10.60 10.58	48	43	53.8 55.2 53.0 53.7	7681	H. . . . . R. C. . . . . Ja. . . . . Ad. . . . .	21	57	54.11 54.08 53.94 54.10	44	02	53.0 52.8 53.7 53.0
7602	H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	21	43	08.10 08.05 08.11 07.99 08.09	38	22	35.5 35.5 37.3 35.3 35.7	7683	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	21	57	52.34 . 52.57 52.46	57	23	50.7 52.3 52.5 51.7
7605	M. . . . . Rob. . . . . Ad. . . . .	21	43	44.09 44.04 44.07	60	06	46.6 46.2 46.2	7695	R. C. . . . . Ja. . . . . Ad. . . . .	21	59	59.16 59.34 59.16	46	37	35.2 37.3 36.0
7612	R. C. . . . . Ja. . . . . Ou. . . . . Ad. . . . .	21	45	36.50 36.27 . 36.50	52	06	51.0 50.3 50.0 50.2	7696	M. . . . . Rob. . . . . R. C. . . . . Pulc. . . . . Ay., 1864 . . . . . Ad. . . . .	21	59	49.62 . 49.60 . 49.62 49.61	59	12	32.5 33.2 31.3 32.6 32.7 32.4
7614	R. C. . . . . Ja. . . . . Wn. . . . . Ad. . . . .	21	45	54.65 54.49 54.84 54.75	38	57	06.9 07.2 06.6 06.7	7698	T. . . . . H. . . . . R. C. . . . . Rob. . . . . R. C. . . . . Pulc. . . . . Ad. . . . .	22	00	08.06* 08.06 08.29 . . . 08.15	59	15	37.8 40.6* 39.1 41.1 39.3 39.2 39.3
7631	M. . . . . Rob. . . . . Ja. . . . . Q. . . . . Ad. . . . .	21	47	47.61 47.74 47.11 47.45 47.60	55	12	34.7 36.0 33.6 . 34.5	7705	T. . . . . H. . . . . R. C. . . . . R. C. . . . . Ad. . . . .	22	00	(57.35) 58.22 58.32 58.32 58.29	44	24	25.7 25.9 25.7 25.0 25.6
7636	M. . . . . Rob. . . . . R. C. . . . . Ad. . . . .	21	48	54.10 54.34 54.33 54.26	55	37	23.0 25.4 24.1 24.0	7718	T. . . . . R. . . . . R. C. . . . . Ay., 1845 . . . . . Rob. . . . . Ad. . . . .	22	02	57.21 57.04* 56.96 57.10 57.17 57.10	58	13	52.6 53.5 52.9 52.4 53.2 52.5
7637	M. . . . . R. C. . . . . Rob. . . . . Q. . . . . Ay., 1864 . . . . . Ad. . . . .	21	48	56.87 . 57.08 57.06 57.08 57.02	53	24	22.5 . 32.0 31.4 31.1 31.6	7721	St. . . . . Wn. . . . . Ad. . . . .	22	03	41.37 41.36 41.36	32	33	45.4 . 45.4
7642	M. . . . . Rob. . . . . Q. . . . . R. C. . . . . Ay., 1864 . . . . . Ad. . . . .	21	50	33.22 33.25 . 33.06 33.24 33.19	53	20	25.5 28.5 28.0* 26.6 27.4 27.0	7727	R. . . . . Ay., 1845 . . . . . Ja. . . . . Ad. . . . .	22	03	44.40 44.34 44.12 44.37	47	19	19.8 22.0 22.0 21.0
7643	R. . . . . Ay., 1840 . . . . . H. . . . . R. C. . . . . Rob. . . . . Ay., 1860 . . . . . Wn. . . . . Ad. . . . .	21	50	41.14 41.17 40.99 41.08 41.16 41.15 41.13 41.12	56	01	12.4 12.3 10.3 09.4 11.7 11.8 13.3 11.5	7731	St. . . . . Wn. . . . . Ad. . . . .	22	04	26.22 26.10 26.18	32	33	55.7 53.6 55.0
7646	R. C. . . . . Ja. . . . . Ad. . . . .	21	51	06.92 06.90 06.92	52	39	01.5 03.4 02.2	7736	T. . . . . H. . . . . R. C. . . . . R. C. . . . . Ay., 1864 . . . . . Ad. . . . .	22	04	21.94 21.77 21.55 22.16 21.86 21.86	58	40	52.7 52.0 52.3 52.3 53.1 52.4
7668	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Ad. . . . .	21	55	12.03 12.15 11.91 11.99 12.02	57	03	36.4 38.6 37.2 37.8 37.4	7737	T. . . . . R. C. . . . . Ay., 1860 . . . . . Ad. . . . .	22	04	34.90 34.79 34.97 34.89	42	34	25.7 24.4 23.0 24.5
7676	T. . . . . H. . . . . R. C. . . . . Ay., 1845 . . . . . R. C. . . . . Main . . . . . Ad. . . . .	21	57	(16.36) 15.55 15.78 15.86 15.76 15.75 15.74	52	16	47.4 48.9 48.0 48.0 48.0 49.2 48.1	7738	T. . . . . R. C. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Ay., 1868 . . . . . Ad. . . . .	22	04	(44.65) 44.92 45.02 45.06 45.10 45.12 45.04	58	14	22.6 20.7 23.4* 20.0 21.1 20.2 21.0
								7743	R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	22	05	51.97 . 51.73 51.97	42	24	59.7 25 58.9 59.3

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		h. m. s.	° ' "			h. m. s.	° ' "
7746	Az. . . . .	22 06 18.06	50 12 23.5	7803	R. C. . . . .	22 16 41.62	43 06 58.3
	H. . . . .	17.95	22.2		Ja. . . . .	41.32	57.6
	R. C. . . . .	18.03	21.9		Ay., 1860 . . . . .	41.65*	57.6*
	Ja. . . . .	(17.70)	22.1		Ay., 1864 . . . . .	41.70	57.2
	Ou. . . . .		22.6		Ad. . . . .	41.66	57.6
	Ay., 1860 . . . . .	18.41	22.0				
	Ad. . . . .	18.60	24.2	7812	R. C. . . . .	22 18 23.48	56 39 09.3
7749	St. . . . .	22 06 31.09	57 35 07.5		Ja. . . . .	23.40	10.3
	Ay., 1869 . . . . .	31.14	08.2		Ay., 1864 . . . . .	23.60	09.5
	Leid. . . . .		08.0		Ad. . . . .	23.54	09.6
	Wn. . . . .	31.06	06.9	7813	T. . . . .	22 18 25.64	55 19 52.8
	Ad. . . . .	31.10	07.6		R. . . . .	25.28	54.5
7753	T. . . . .	22 07 16.16	33 59 21.3		H. . . . .	25.21	52.2
	R. . . . .	16.01*	23.6*		R. C. . . . .	25.43	52.6
	H. . . . .	15.83	21.1		Rob. . . . .	25.44	53.4
	Rob. . . . .	15.94	22.9		Wn. . . . .	25.50	52.3
	R. C. . . . .	16.09	21.5		Ad. . . . .	25.42	52.7
	Wn. . . . .	16.03		7815	St. . . . .	22 18 38.80	51 36 11.5
	Ad. . . . .	16.02	21.9		Leid. . . . .		11.9
7754	M. . . . .	22 07 17.87	56 13 05.7		Eng. . . . .	38.74	11.9
	Rob. . . . .	18.02	08.2		Main . . . . .	38.68	12.1
	Ja. . . . .	17.68	06.6		Ad. . . . .	33.76	11.8
	Ay., 1860 . . . . .	18.25	06.6	7820	M. . . . .	22 19 26.82	48 50 34.01
	R. C. . . . .	17.84*	05.0		Rob. . . . .	26.87	35.6
	Ad. . . . .	18.11	06.3		Ay., 1860 . . . . .	27.01	34.0
					Ad. . . . .	26.90	34.4
7755	M. . . . .	22 07 16.24	58 47 51.4	7824	T. . . . .	22 20 03.11	50 37 14.4
	Rob. . . . .	16.41	54.0		R. C. . . . .	03.16	14.7
	R. C. . . . .	16.22	51.5		Ad. . . . .	03.14	14.5
	Ay., 1864 . . . . .	16.23	53.3	7825	T. . . . .	22 20 22.07	49 46 02.3
	Ad. . . . .	16.28	52.4		H. . . . .	21.93	01.2
7765	R. C. . . . .	22 08 30.71	39 05 42.6		R. C. . . . .	22.04	01.2
	Rob. . . . .	30.80	43.3		Rob. . . . .	22.03	02.3
	Ay., 1860 . . . . .	30.83	43.0		Ad. . . . .	22.02	01.6
	Ad. . . . .	30.78	42.7	7843	M. . . . .	22 24 18.79	31 56 00.1
7770	R. C. . . . .	22 09 29.21	42 20 05.0		R. C. . . . .	18.90	00.2
	Ja. . . . .	28.84	04.8		Ay., 1864 . . . . .	18.75	00.4
	Ad. . . . .	29.21	04.7		Wn. . . . .	18.84	55 59.4
7777	M. . . . .	22 10 31.46	37 07 37.3		Ad. . . . .	18.83	56 00.4
	Rob. . . . .	31.34	36.8	7345	M. . . . .	22 24 19.23	47 04 02.6
	Ay., 1860 . . . . .	31.34	36.4		Rob. . . . .	19.47	03.5
	Ad. . . . .	31.38	36.7		Ay., 1860 . . . . .	19.30	02.2
7778	M. . . . .	22 10 26.10	56 25 17.1		R. C. . . . .	19.20	02.3
	Rob. . . . .	26.18	15.2		Ad. . . . .	19.32	02.5
	Ay., 1860 . . . . .	26.13	14.2	7846	R. C. . . . .	22 24 28.72	53 36 22.3
	R. C. . . . .	26.13	13.3		Ja. . . . .	28.52	23.7
	Ay., 1864 . . . . .	26.09	14.8		Ad. . . . .	28.72	22.8
	Ay., 1868, 1869 . . . . .	26.10	14.5	7847	M. . . . .	22 24 30.95	57 45 51.0
	Leid. . . . .		14.7		R. C. . . . .	31.08	51.9
	Ad. . . . .	26.12	14.5		Ay., 1864 . . . . .	30.91	52.5
7782	T. . . . .	22 11 55.84	56 35 47.7		Ad. . . . .	30.98	51.8
	H. . . . .	55.50	47.7	7848	St. . . . .	22 24 31.91	57 46 32.1
	R. C. . . . .	55.70	49.9		R. C. . . . .	31.86	31.9
	Rob. . . . .	55.83	50.2		Ay., 1864 . . . . .	31.92	32.7
	R. C. . . . .	55.78	48.6		Ad. . . . .	31.92	32.3
	Ad. . . . .	55.73	48.7	7850	M. . . . .	22 25 05.52	42 28 59.5
7787	R. C. . . . .	22 13 48.28	52 01 40.5		Rob. . . . .	05.52	59.0
	Ja. . . . .	47.83	48.9		Ay., 1860 . . . . .	05.64	
	Ou. . . . .		49.3		Ay., 1864 . . . . .	05.61	59.3
	Ad. . . . .	48.28	49.1		Ad. . . . .	05.57	59.1
7799	T. . . . .	22 15 31.22	56 17 23.4	7855	St. . . . .	22 26 08.52	49 38 24.2
	R. . . . .	30.78	25.7		Rob. . . . .	08.68	24.8
	R. C. . . . .	30.92	22.8		R. C. . . . .	08.57	24.0
	Ad. . . . .	30.97	23.5		Wn. . . . .	08.74	25.2
7800	M. . . . .	22 15 51.70	45 54 27.7		Wn. Tran. and Mur. . . . .	08.83	25.4
	Rob. . . . .	51.81	28.8		Ay., 1868, 1869 . . . . .	08.62	25.5
	Ay., 1860 . . . . .	51.80	26.3		Ad. . . . .	08.64	24.8
	Ad. . . . .	51.77	27.4				

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		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
7858	H. . . . .	22	26	54.92	39	08	14.8	7948	R. C. . . . .	22	40	37.20	43	53	14.8
	R. C. . . . .			54.85			14.2		Ay., 1845 . . . . .			37.28			14.6
	Ja. . . . .			(54.61)			15.4		Rob. . . . .			37.48			14.6
	Bonn . . . . .			54.83*			16.3*		Ja. . . . .			37.01			13.0
	Ay., 1860 . . . . .						14.6		Ad. . . . .			37.74			15.8
	Ay., 1864 . . . . .			54.99			14.3								
	Ad. . . . .			54.92			14.6								
7871	T. . . . .	22	28	49.34	55	58	40.0	7950	T. . . . .	22	40	53.19	45	33	29.9
	H. . . . .			49.45			42.4		R. C. . . . .			53.04			30.3
	R. C. . . . .			49.50			41.6		Rob. . . . .			53.21			31.2
	Rob. . . . .			49.60			42.1		R. C. . . . .			53.06			30.7
	Wn. . . . .			49.86			43.4		Wn. . . . .			53.04*			26.7
	Ad. . . . .			49.67			41.8		Ad. . . . .			53.11			29.9
7879	M. . . . .	22	30	17.75	38	58	50.9	7953	R. C. . . . .	22	42	25.49	57	49	25.9
	Rob. . . . .			18.70			51.2		Rob. . . . .			25.55			25.6
	R. C. . . . .			18.42			51.6		Ja. . . . .			25.16			25.1
	Ay., 1864 . . . . .			18.63			52.1		Wn. . . . .						25.9
	Ad. . . . .			18.55			51.3		Ad. . . . .			25.52			25.4
7880	M. . . . .	22	30	18.59	38	59	17.7	7961	R. C. . . . .	22	44	36.75	55	14	23.4
	Rob. . . . .			18.75			17.8		Rob. . . . .			36.83			23.3
	R. C. . . . .			18.74			17.1		Ja. . . . .			36.42			23.2
	Ay., 1864 . . . . .			18.75			16.1		Ay., 1860 . . . . .			36.84			23.8
	Main . . . . .			18.68*			17.0*		Ad. . . . .			36.81			23.3
	Wn. . . . .			18.75			16.5	7962	M. . . . .	22	44	43.57	41	17	30.9
	Ad. . . . .			18.71			16.9		Rob. . . . .			43.70			31.6
7882	R. C. . . . .	22	30	41.93	49	25	25.9		Ad. . . . .			43.64			31.0
	Ja. . . . .			41.45			26.1	7972	M. . . . .	22	46	23.90	42	38	54.4
	Ad. . . . .			41.93			25.8		Rob. . . . .			23.95			54.6
7888	M. . . . .	22	32	14.46	50	54	00.0		Ay., 1860 . . . . .			23.93			54.2
	Rob. . . . .			14.42			01.0		R. C. . . . .			23.84			55.3
	Wn. T. C. . . . .			14.52			01.1		Ay., 1864 . . . . .			23.93			53.6
	Wn. Tran. . . . .			14.66					Ad. . . . .			23.91			54.3
	Ad. . . . .			14.52			00.5	7978	R. C. . . . .	22	47	28.76	39	30	13.8
7894	T. . . . .	22	32	52.90	44	32	01.5		Ja. . . . .			28.54			13.7
	R. C. . . . .			53.03			02.6		Ad. . . . .			28.76			13.6
	Rob. . . . .			52.97			01.6	7983	H. . . . .	22	48	04.68	44	05	06.1
	Wn. . . . .			53.14			01.3		R. C. . . . .			04.65			06.5
	Ad. . . . .			53.01			01.7		Rob. . . . .			04.62*			05.6
7901	St. . . . .	22	33	39.29	38	23	59.9		Ja. . . . .			04.41			06.7
	Wn. Tran. . . . .			39.16					Ad. . . . .			04.66			06.0
	Ad. . . . .			39.25			59.9	7984	H. . . . .	22	48	22.88			
7906	M. . . . .	22	35	01.83	43	37	26.4		R. C. . . . .			22.91	39	42	39.1
	Rob. . . . .			01.95			27.0		Rob. . . . .						39.0
	Ay., 1860 . . . . .			02.13			27.1		Ja. . . . .			22.70			37.7
	R. C. . . . .			02.05			27.7		Ad. . . . .			22.90			38.4
	Ay., 1864 . . . . .			02.12			26.7	7994	M. . . . .	22	50	41.22	40	56	14.2
	Ay., 1868, 1869 . . . . .			02.05			27.0		Rob. . . . .						14.6
	Ad. . . . .			02.02			27.1		Ay., 1864 . . . . .			41.41			12.8
7913	Ay., 1840 . . . . .	22	35	42.61	44	21	19.8		Wn. . . . .			41.36			13.8
	R. C. . . . .			42.59			20.6		Wn. Tran. . . . .			41.19*			
	Rob. . . . .			42.73			22.0		Ad. . . . .			41.31			13.7
	Wn. . . . .			42.76			21.3	7995	H. . . . .	22	50	57.35	49	04	00.0
	Ad. . . . .			42.68			20.7		R. C. . . . .			57.28		03	58.9
7915	M. . . . .	22	35	52.96	39	34	22.6		Rob. . . . .			57.46*			59.9
	Rob. . . . .			53.06			25.0		Ja. . . . .			57.21			59.5
	Wn. . . . .			53.04			21.7		Ay., 1860 . . . . .			57.49			59.3
	Wn. Tran. . . . .			52.98					Ad. . . . .			57.39			59.3
	Ad. . . . .			53.01			22.9	7999	R. C. . . . .	22	51	33.12	48	00	59.5
7917	R. C. . . . .	22	36	00.62	40	53	38.2		Ay., 1845 . . . . .			33.30		01	00.9
	Rob. . . . .			00.81			38.2		Rob. . . . .			33.30*			00.1
	Ja. . . . .			00.31			38.3		Ja. . . . .			33.11		00	59.1
	Ad. . . . .			00.72			37.9		Bonn . . . . .			33.36*			59.7
7931	R. C. . . . .	22	38	26.70	38	48	39.8		Leid. . . . .						59.9
	Rob. . . . .			26.87			39.0		Ay., 1868, 1869 . . . . .			33.26		01	00.0
	Ja. . . . .			26.53			40.5		Ad. . . . .			33.26		00	59.7
	Ad. . . . .			26.78			39.5	8013	R. C. . . . .	22	54	01.98	59	08	42.9
7932	St. . . . .	22	38	31.15	41	09	49.4		Rob. . . . .						43.7
									Ja. . . . .			01.89			44.1
									Ad. . . . .			01.98			43.3



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		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
8023	St. . . . . Ay., 1869 . . . . . Leid. . . . . Wn. Tran. and Mur. . . . . Ad. . . . .	22	56	10.36 10.34 10.26* 10.34	41	39	15.6 16.4 16.1 [19.92] 15.9	8110	H. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	23	11	23.76 23.80 (24.36) 23.67 23.78	44	29	04.6 04.2 05.5 04.5
8024	M. . . . . Rob. . . . . Q. . . . . Sm. . . . . Ad. . . . .	22	56	13.89 13.82 14.05 13.86	56	26	03.0 03.6 01.8* 02.2 02.6	8114	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	23	11	57.09 57.05 57.19 57.11	48	19	56.6 58.1 55.8 56.7
8028	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	22	56	51.20 51.14 51.23 51.19	42	05	08.1 08.4 08.3 08.1	8115	R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	23	12	04.12 04.19 03.81 04.14	44	48	23.7 26.7 25.0 24.6
8033	R. C. . . . . Rob. . . . . Pulc. . . . . Ad. . . . .	22	58	13.66 13.66 13.66 13.66	59	46	22.0 22.7 21.1 21.6	8125	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	23	13	40.41 40.57 40.64 40.60 40.56	47	56	23.8 22.3 24.2 23.8 23.4
8036	M. . . . . Rob. . . . . Q. . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	22	58	34.28 34.43 34.52 34.57 34.43 34.44	49	22	22.0 23.0 23.1 22.2 22.4 22.3	8126	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ay., 1869 . . . . . Ad. . . . .	23	13	49.52 49.96 49.61 49.63 49.64	47	41	45.6 47.0 46.6 46.7 46.4
8054	M. . . . . Rob. . . . . Ad. . . . .	23	01	20.19 20.32 20.26	58	44	38.2 40.6 39.2	8128	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	23	13	55.55 55.68 55.57 55.60	41	23	39.6 39.7 38.0 38.8
8056	M. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ay., 1864 . . . . . Ad. . . . .	23	01	35.19 35.16 34.94 35.07 35.14	45	23	33.0 34.0 32.5 31.3 31.4	8135	R. C. . . . . Rob. . . . . Ja. . . . . Sm. . . . . Ad. . . . .	23	14	49.34 49.34 49.06 49.46 49.34	43	25	59.5 02.3* 59.2 00.0 00.0
8058	M. . . . . Rob. . . . . Ad. . . . .	23	01	56.54 56.54 56.54	45	42	43.4 44.1 43.5	8136	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	23	14	51.34 51.47 51.43 51.46 51.28* 51.28	37	30	00.7 00.5 00.4 00.7 00.4 00.4
8059	M. . . . . Rob. . . . . Q. . . . . R. C. . . . . Ay., 1864 . . . . . Ad. . . . .	23	02	04.80 04.77 04.79 04.84 04.89 04.82	48	36	53.6 54.9 53.7 53.7 54.6 54.1	8139	M. . . . . Rob. . . . . Ja. . . . . Wn. . . . . Sm. . . . . Ad. . . . .	23	15	16.92 16.79 16.93 17.21 16.92	37	53	51.7 55.3 54.5 52.6 53.4
8075	M. . . . . Rob. . . . . R. C. . . . . Ad. . . . .	23	04	23.81 23.93 23.61 23.78	58	39	16.2 18.0 17.3 17.0	8141	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	23	15	48.86 48.87 48.90 48.90* 48.88	31	07	39.9 41.0 39.6 40.3
8076	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Ad. . . . .	23	04	40.64 40.97 40.72 40.85 40.80	42	52	23.4 23.4 24.2 22.4 23.2	8153	M. . . . . Rob. . . . . Ja. . . . . Pulc. . . . . Ad. . . . .	23	16	58.42 58.32 57.70 58.37	59	26	53.4 53.5 53.9 55.0 54.0
8082	M. . . . . Rob. . . . . Ay., 1860 . . . . . Wn. . . . . Ad. . . . .	23	06	49.50 49.56 49.74 49.67 49.61	48	43	24.1 26.4 24.5 25.4* 24.9	8156	M. . . . . Rob. . . . . Q. . . . . R. C. . . . . Ay., 1864 . . . . . Ad. . . . .	23	17	39.32 39.19 38.98 39.12 39.01 39.12	31	50	35.4 37.2 38.4 38.5 37.8 37.9
8083	St. . . . . Sm. . . . . Ad. . . . .	23	07	16.18 16.54 16.30	56	28	41.3 41.9 41.5	8158	M. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	23	18	27.36 27.28 27.10 27.32	56	50	57.7 59.0 59.4 58.5
8107	M. . . . . Rob. . . . . Q. . . . . R. C. . . . . Ay., 1869 . . . . . Ad. . . . .	23	11	00.47 00.57 00.87 00.63 00.65 00.64	52	32	20.8 20.9 22.2 22.7 23.0 21.8								

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		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
8159	M. Rob. Q. R. C. Ay., 1864 Wn. Ad.	23	18	43.65 43.76 43.79 43.86 43.82 43.78 43.78	31	41	54.0 55.5 54.9 54.6 54.9 . 54.7	8268	M. Rob. Ay., 1860 Ay., 1864 Wn. Ad.	23	40	57.06 57.39 57.10 57.22 57.21 57.20	57	57	20.6 22.2 20.7 21.0 21.2 21.0
8171	M. Rob. Wn. Ad.	23	21	06.15 06.15 06.07* 06.12	42	13	27.1 . 27.1 26.9	8280	M. R. C. Rob. Pulc. Sm. Ad.	23	42	(47.86) 46.43 46.68 . 46.94 46.68	59	17	01.9 . 02.2 01.2 59.7 01.1
8188	T. R. R. C. Ay., 1845 Rob. Ay., 1860 Ay., 1864 Ad.	23	24	15.81 15.81 15.71 15.89 16.03 16.02 15.99 15.92	57	51	36.4 36.2 35.5 35.7 35.8 35.2 36.5 35.6	8282	M. Rob. Ja. Ay., 1864 Ay., 1868 Ad.	23	43	03.96 04.25 03.58 03.85 03.86 03.98	58	16	06.0 06.2 07.8 07.4 07.3 06.8
8195	M. Rob. Q. R. C. Ay., 1864 Wn. Ad.	23	25	08.61 08.69 08.75 08.79 08.75 08.77 08.74	38	32	59.2 60.6 . 58.9 57.9 59.0	8289	T. R. R. C. Rob. R. C. Ad.	23	44	07.57 07.54 07.60 07.88 07.91 07.90	50	55	38.1 41.4 39.7 39.9 39.3 39.3
8206	St. Ay., 1864 Main Ad.	23	27	45.12 45.23 45.25 45.18	30	38	07.1 07.7 07.2 07.3	8307	T. R. C. Rob. Ad.	23	47	17.92 17.98 . 17.95	50	49	35.5 38.7 38.0 37.2
8211	M. Rob. Ay., 1864 Main Ad.	23	28	27.61 27.71 27.61 27.74 27.70	32	48	22.1 22.8 20.8 20.8 21.5	8310	St.	23	48	08.72	56	48	13.7
8212	M. Rob. Ad.	23	28	30.75 30.79 30.77	39	32	51.0 52.6 51.5	8316	T. R. H. R. C. Rob. Ad.	23	49	14.62 14.35 14.52 14.44 14.64 14.52	52	02	19.0 19.8 19.3 20.4 21.7 19.7
8223	R. C. Ay., 1868 Ad.	23	31	25.63 25.71 25.67	43	44	17.5 16.2 16.8	8317	M. Rob. Ay., 1864 Ad.	23	49	18.44 18.46 18.18 18.36	56	42	59.1 59.3 58.5 58.8
8224	St. R. C. Ad.	23	31	27.11 26.91 27.04	45	46	50.6 49.9 50.4	8322	M. Rob. Ad.	23	50	50.72 50.86 50.79	55	00	37.0 37.6 37.0
8229	St. Ay., 1864 Ay., 1868 Ad.	23	32	00.54 00.56 00.52 00.54	42	34	34.5 34.3 34.7 34.5	8326	T. H. R. C. Ay., 1845 Rob. Ad.	23	51	48.01 47.74 47.81 47.78 47.83 47.79	49	44	25.6 28.7 28.4 27.8 31.8 35.5
8231	M. Rob. Ad.	23	33	05.01 05.14 05.07	49	46	46.5 47.8 46.9	8330	M. Rob. Main Wn. Ad.	23	52	40.52 40.60 . 40.32 40.50	55	03	32.4 33.9 34.4* 34.0 33.3
8237	St.	23	34	15.23	43	38	31.5	8245	H. R. C. Ja. Ad.	23	55	20.49 20.55 20.31 20.55	41	40	17.2 15.7 16.4 15.9
8245	Ay., 1840 R. C. Ja. Ad.	23	36	05.73 05.64 05.62 05.68	44	17	58.6 58.1 58.5 58.3	8364	M. Rob. Wn. Ay., 1868 Sm. Ad.	23	58	28.71 28.75 28.84 28.72 28.92 28.79	57	50	08.0 09.7 . 10.1 09.0 09.1
8252	M. Rob. Ay., 1868 Sm. Ad.	23	37	00.71 00.66 00.77 00.68	52	27	32.5 33.1 33.7 32.6 32.9	8372	M. Rob. Wn. Ay., 1868 Sm. Ad.	23	59	43.99 43.93 44.03 43.95 44.22 44.02	57	44	22.8 23.4 23.3 . 21.6 22.6
8261	M. R. C. Rob. Ay., 1860 Ad.	23	39	50.51 50.64 50.71 50.62	45	43	34.7 . 35.8 34.9 35.0								

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		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
7	St. . . . . R. C. . . . . Wn. . . . . Ad. . . . .	0	02	31.05 31.15 31.08	58	27	36.0 36.1 34.3 35.6	92	M. . . . . R. C. . . . . Rob. . . . . Ay., 1868 . . . . . Ad. . . . .	0	19	[45.90] 49.57 49.83 49.68 49.69	55	56	55.5 . 57.1 55.6 55.9
13	R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	0	03	33.77 33.34 33.77	45	41	43.1 43.2 45.1 43.7	100	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	0	21	30.50 30.69 30.87 30.69	43	42	10.6 11.7 11.1 11.0
16	St. . . . .	0	03	49.82	45	22	35.3	120	H. . . . . Rob. . . . . Ja. . . . . H. C. . . . . Ay., 1864 . . . . . Main . . . . . Sm. . . . . Ad. . . . .	0	24	47.31 47.44 47.11 47.57 47.53 47.51 . 47.47	32	53	30.6 29.6* 28.2 29.7 29.4 29.6 28.3 29.2
18	M. . . . . Rob. . . . . Main . . . . . Sm. . . . . Ad. . . . .	0	04	01.30* 01.42 . 01.62 01.52	58	58	43.1* 37.6 41.1* 38.4 39.1								
28	Arg. . . . . Ay. . . . . Sm. . . . . Ad. . . . .	0	07	01.66 01.57 01.75 01.66	40	20	43.8 42.1 42.3 43.2	121	M. . . . . Rob. . . . . Ay., 1860 . . . . . Main . . . . . Ad. . . . .	0	24	52.95 52.98 53.13 53.38* 53.07	53	49	59.9 50 50.6 53.9 55.4*
51	R. . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	0	10	33.49 33.65 33.79 33.18 33.64	47	15	10.0 08.7 09.5 10.6 09.3	123	Ay., 1840 . . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	0	25	19.55 19.12 19.21* 18.96 19.31	53	07	29.4 28.2 29.8* 28.7 28.6
52	M. . . . . Rob. . . . . R. C. . . . . Wn. . . . . Ad. . . . .	0	10	33.85 33.87 33.91 33.84* 33.87	37	59	15.3 16.4 15.9 . 15.7	146	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	0	29	11.24 11.32 11.46 11.34	53	28	46.4 44.5 45.6 45.3
54	Ay., 1840 . . . . . R. C. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	0	11	05.83 05.87 06.05 05.49 05.92	50	44	19.4 19.3 18.8 18.8 18.8	148	R. C. . . . . Rob. . . . . Ja. . . . . Pulc. . . . . Ad. . . . .	0	29	21.65 22.02* 21.53 . 21.77	59	38	14.8 14.4 15.0 14.6 14.5
58	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Wn. Tran. . . . . Ad. . . . .	0	11	47.93 47.10 48.10 47.96 48.08 48.05 48.04	36	05	32.2 33.0 30.5 32.4 31.7 . 31.9	152	R. . . . . R. C. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	0	29	59.55* 59.17 59.35* 59.19 59.27	43	47	55.4* 55.3 55.0 55.5 55.0
60	M. . . . . Rob. . . . . Ay., 1860 . . . . . Wn. . . . . Ad. . . . .	0	12	06.97 07.16 07.17 07.08 07.10	43	05	49.2 49.6 48.7 47.7 48.7	153	St. . . . . Wn. . . . . Ay., 1868, 1869 . . . . . Leid. . . . . Ad. . . . .	0	30	00.76 (01.07) 00.91 . 00.81	53	12	30.2 31.9 31.4 31.2 31.1
67	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Main . . . . . Wn. Tran. . . . . Ad. . . . .	0	14	32.50 32.41 32.48 32.52 32.47 32.37 32.46	37	16	33.8 33.6 33.3 34.4 33.1 . 33.5	155	St. . . . .	0	30	12.40	33	01	51.6
78	R. C. . . . . Ay., 1845 . . . . . Rob. . . . . Ja. . . . . Ad. . . . .	0	17	26.60 26.63 26.73 26.31 26.64	43	31	18.4 18.1 17.7 18.7 18.0	158	Rob. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	0	30	39.60 39.78 39.81 39.85 39.76	34	42	42.4 41.3 41.6 40.6 41.4
79	R. C. . . . . Rob. . . . . Ja. . . . . Ay., 1864 . . . . . Ad. . . . .	0	17	31.90 31.62 31.62 32.06 31.98	51	19	37.6 37.7 38.9 37.2 37.3	165	R. C. . . . . Rob. . . . . Ja. . . . . Ay., 1864 . . . . . Ay., 1868 . . . . . Ad. . . . .	0	32	15.72 15.68 15.31 16.01* 15.79 15.77	48	40	01.1 02.0 01.5 00.5* 02.2 01.5
83	M. . . . . Rob. . . . . Ja. . . . . Sm. . . . . Ad. . . . .	0	18	21.00 21.03 20.80 21.37 21.09	52	21	12.8 14.6 14.9 14.1 14.0	166	St. . . . . R. C. . . . . Wn. Mur. . . . . Ad. . . . .	0	32	38.80 38.90 38.74 38.82	30	10	35.3 35.0 . 35.2
								169	American Nautical Almanac star.						
								173	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	0	34	20.89 21.03 20.86 20.88 20.95 20.92	38	46	20.5 21.0 20.8 20.2 . 20.5

No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.			No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.		
		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
180	M. . . . . Rob. . . . . Bonn. . . . . Ay., 1864 . . . . . Wn. . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	0	35	05.68 05.96 05.96 05.93 06.01 06.01 05.92	49	49	35.3 38.1 36.1 36.6 36.2 36.2 36.3	245	R. C. . . . . Ay., 1850 . . . . . Ja. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Bonn. . . . . Ay., 1868, 1869 . . . . . Leid. . . . . Ad. . . . .	0	47	59.52 59.54 59.19 59.49* 59.56 59.53 59.46 59.52	48	00	01.1 03.0 01.3 02.0* 00.2 01.8 00.8 01.9 01.4
181	M. . . . . Rob. . . . . Ja. . . . . Ay., 1864 . . . . . Ad. . . . .	0	35	13.52 13.36 13.43 13.60 13.49	40	00	16.9 17.4 17.8 16.3 16.9	254	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	0	49	14.42 14.19 14.28 14.30	58	30	22.5 19.8 19.4 20.4
182	M. . . . . Rob. . . . . Main . . . . . Ad. . . . .	0	35	20.18 20.40 20.47 20.29	58	04	02.5 04.9 04.7 03.9	255	R. C. . . . . Ja. . . . . Pulc. . . . . Ad. . . . .	0	49	15.83 15.40 15.40 15.83	59	41	07.9 08.5 07.3 07.6
189	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	0	36	33.49 33.43 33.46 33.47 33.47	46	20	25.6 26.4 26.2 24.9 25.8	259	St. . . . . R. C. . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Eng. . . . . Arg. . . . . Main . . . . . Wn. Tran. . . . . Sm. . . . . Ad. . . . .	0	49	49.03 49.10 49.12 49.14 49.14 49.16 49.03 49.08 [49.28] 49.10	37	49	14.9 15.3 15.0 15.0 16.0 15.9 15.7 14.9 15.3
197	M. . . . . Rob. . . . . R. C. . . . . Ja. . . . . Ay., 1864 . . . . . Sm. . . . . Ad. . . . .	0	37	[31.01] 30.20 30.19 29.90 30.03 30.18 30.12	47	10	[45.0] 44.3 41.9 43.4 43.9 42.4 43.0	283	M. . . . . Rob. . . . . Wn. . . . . Ad. . . . .	0	55	52.92 53.03 53.10 53.02	40	40	23.0 23.8 21.1 22.5
198	St. . . . . Ay., 1868, 1869 . . . . . Leid. . . . . Ad. . . . .	0	37	45.92 45.94 45.93	47	35	59.2 59.2 60.0 59.5	285	M. . . . . Rob. . . . . Main . . . . . Ad. . . . .	0	55	58.38 58.43 58.48 58.43	31	07	58.0 57.6 58.0 57.7
201	R. C. . . . . Rob. . . . . Ad. . . . .	0	38	10.45 10.44 10.44	54	32	12.6 13.6 12.8	290	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Sm. . . . . Ad. . . . .	0	56	54.81 54.42 54.38 54.60 54.83 54.55	53	32	08.3§ 06.4 06.1 05.1 04.6 04.3
218	St. . . . . R. C. . . . . Ay., 1864 . . . . . Eng. . . . . Arg. . . . . Sm. . . . . Ad. . . . .	0	41	32.75 32.94 32.82 32.90 32.80 (33.05) 32.83	57	09	07.4 07.3 08.2 07.8 08.3 06.8 07.6	297	R. . . . . Ay., 1840 . . . . . R. C. . . . . Ja. . . . . Ad. . . . .	0	57	34.48 34.59 34.62 34.38 34.57	39	19	[07.9] 16.5 13.9 14.5 15.0
219	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	0	41	45.28 45.40 45.40 45.36	50	17	08.9 08.7 09.8 09.0	310	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Ad. . . . .	0	59	18.96 19.00 18.89 18.87 18.94	31	30	44.2 42.9 43.9 44.0 43.6
227	M. . . . . Rob. . . . . Wn. Mur. . . . . Ad. . . . .	0	42	55.41 55.52 55.49* 55.47	40	23	53.4 53.1 52.1* 52.8	314	M. . . . . Ay., 1840 . . . . . Ay., 1845 . . . . . R. . . . . R. C. . . . . Rob. . . . . Ay., 1860 . . . . . R. C. . . . . Ad. . . . .	0	59	58.27 57.63 57.63 58.05 57.99 57.98	54	18	[34.6] 22.2 21.4 21.9* 21.5 20.8 21.4 21.6 21.2
226	R. C. . . . . Ja. . . . . Ad. . . . .	0	42	37.46 37.25 37.46	47	04	58.1 58.7 58.2	318	M. . . . . Rob. . . . . Ay., 1860 . . . . . R. C. . . . . Ad. . . . .	1	00	50.60 50.60 50.66 50.63 50.60	43	16	30.4 30.9 31.6 32.0 31.1
232	R. C. . . . . Rob. . . . . R. C. . . . . Ad. . . . .	0	43	48.46 48.41 48.39 48.90	50	49	38.2 36.8 37.0* 37.1	321	M. . . . . Rob. . . . . R. C. . . . . Ay., 1864 . . . . . Ad. . . . .	1	01	06.66 06.51 06.50 06.39 06.51	31	20	40.6 41.0 38.8 40.0 40.0
235	R. C. . . . . Rob. . . . . Ad. . . . .	0	44	26.40 26.43 26.42	50	53	28.4 27.9 27.8								
244	M. . . . . Rob. . . . . Wn. . . . . Ad. . . . .	0	47	35.52 35.61 38.61* 35.57	58	17	41.3 42.0 41.4								
§ Reduced from Bessel, 1815; proper motion of — 0".07 yearly is indicated.															

§ Reduced from Bessel, 1815; proper motion of — 0".07 yearly is indicated.

No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.			No.	Authority.	Right Ascension, 1875.0.			Declination, 1875.0.		
		h.	m.	s.	°	'	"			h.	m.	s.	°	'	"
330	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ad. . . . .	1	02	14.95 15.03 15.15 15.04	46	34	28.9 28.4 28.8 28.5	416	St. . . . . R. C. <sub>2</sub> . . . . . Wn. Tran. and Mur. . . . . Pulc. . . . . Ad. . . . .	1	17	39.30 39.06 39.22 39.22	59	35	05.9 03.7 06.0 04.7 04.8
334	St. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Ay., 1868, 1869 . . . . . Eng. . . . . Wn. Tran. and Mur. . . . . Arg. . . . . Sm. . . . . Ad. . . . .	1	02	44.30 44.33 44.28 44.26 44.22 44.36 44.29 44.28 44.29	34	57	26.4 27.2 26.6 26.9 26.1 26.5 26.6 26.6 26.6	425	T. . . . . R. . . . . R. C. . . . . Ay., 1860 . . . . . Ad. . . . .	1	18	57.47 57.37* 57.80 57.97 57.89	42	48	33.4 35.2 32.2 31.9 30.4
337	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	1	03	13.15 13.18 13.25 13.19	41	24	57.0 57.9 58.0 57.5	432	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	1	20	11.06 11.08 10.98 11.04	44	45	37.7 38.4 36.6 37.4
339	M. . . . . R. C. . . . . Ay., 1860 . . . . . R. C. <sub>2</sub> . . . . . Wn. . . . . Ad. . . . .	1	03	[28.90] 30.01 30.13 30.10 30.03	54	29	01.7 02.8 02.8 03.3 02.6	441	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ay., 1868 . . . . . Ad. . . . .	1	22	36.58 36.72 36.73 36.76 36.70	46	21	40.8 42.0 41.6 42.1 41.5
343	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	1	04	09.20 09.24 09.03 09.24 08.98 09.15	37	03	31.3 31.9 31.0 30.0 30.9 30.9	456	M. . . . . Rob. . . . . Ad. . . . .	1	25	46.55 46.73 46.64	58	35	20.6 21.9 21.0
345	M. . . . . Rob. . . . . Ay., 1864 . . . . . Main . . . . . Ad. . . . .	1	04	13.45 13.41 13.44 32.5 13.43	30	45	34.3 33.9 34.3 32.5 33.6	465	T. . . . . Rob. . . . . Bonn. . . . . Ay., 1864 . . . . . Ad. . . . .	1	27	03.88 03.81 03.94 03.84 03.87	36	35	43.6 45.3 43.9 44.1 44.3
352	T. . . . . Ay., 1845 . . . . . R. C. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Ad. . . . .	1	05	20.42 20.24 19.98 20.04 20.16 20.17	44	40	17.8 19.3 18.6 18.2 17.9 18.3	474	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ay., 1868 . . . . . Ad. . . . .	1	28	49.28 49.30 49.19 49.27 49.27	48	04 05	59.4 01.3 00.1 00.2* 00.1
357	H. . . . . Main . . . . . Sm. . . . . Ad. . . . .	1	05	56.29 41.5 56.29	31	24	42.1 43.0 41.5 42.0	480	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	1	29	27.96 27.94 27.87 27.92	40	46	45.9 47.8 46.8 46.7
377	R. C. . . . . Ja. . . . . Ad. . . . .	1	09	18.65 18.18 18.65	42	16	48.5 46.7 47.4	482	R. C. . . . . Rob. . . . . Ay., 1850 . . . . . Ja. . . . . Wn. . . . . Sm. . . . . Ad. . . . .	1	29	58.05 58.10* 58.17 57.87 58.38* 58.14 58.15	57	20	23.3 22.8 22.9 21.7 21.8 20.6 21.8
390	T. . . . . Ay., 1845 . . . . . R. C. . . . . Rob. . . . . Ad. . . . .	1	12	00.87 00.98 01.00 01.02 00.97	57	33	00.7 59.5 59.9 00.7 59.9	487	St. . . . . R. C. <sub>2</sub> . . . . . Wn. Tran. and Mur. . . . . Ay., 1868, 1869 . . . . . Arg. . . . . Leid. . . . . Ad. . . . .	1	30	19.62 19.53 19.49 19.66 19.68 19.61	47	59	38.1 38.0 38.2 38.7 38.8 38.6 38.5
391	M. . . . . Rob. . . . . Ad. . . . .	1	12	13.98 14.02 14.00	57	34	24.9 24.3 24.4	492	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	1	31	51.51 51.62 51.58 51.57	43	44	56.4 58.0 57.7 57.2
404	M. . . . . Rob. . . . . Ay., 1860 . . . . . Ay., 1864 . . . . . Wn. . . . . Ay., 1868 . . . . . Ad. . . . .	1	14	59.09 59.11 59.32 59.19 59.17 59.19 59.18	44	52	21.4 22.4 22.8 22.7 23.6 23.7* 22.7	501	R. C. . . . . Ja. . . . . Ad. . . . .	1	33	10.04 09.94 09.99	42	39	53.2 52.9 52.9
409	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Ad. . . . .	1	16	31.96 31.96 31.85 31.86 31.91	37	03	41.9 42.0 42.6 42.1 42.0	502	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Wn. . . . . Ay., 1868 . . . . . Ad. . . . .	1	33	12.51 12.53 12.41 12.47 12.44 12.39 12.46	39	56	33.5 34.2 34.6 35.1 34.0 35.8 34.4
								508	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	1	34	01.25 01.40 01.32	57	59	40.9 40.2 [47.4] 40.3

No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	No.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
509	T. . . . . Ay., 1840 . . . . . R. C. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	I 34 11.07 10.83 10.98 11.38 10.92 11.04	59 54 55.4 56.8 56.0 57.5 55.9* 56.2	562	M. . . . . Rob. . . . . R. C. . . . . Ja. . . . . Ay., 1864 . . . . . Wn. . . . . Sm. . . . . Ad. . . . .	I 44 51.74 51.81 51.80 51.38 51.86 51.77 51.90 51.79	50 51 [24.7] 24.0 23.0 22.2 23.0 . 21.5 22.6
510	T. . . . . R. C. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ay., 1868, 1869 . . . . . Leid. . . . . Ad. . . . .	I 34 08.26 08.58 09.22 09.82* 10.38 . 10.97	41 59 . 11.2 09.7 09.4* 08.2 08.2 08.4	566	M. . . . . Rob. . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	I 45 47.73 47.79 47.79 47.88 47.80	40 06 42.5 43.1 43.1 42.4 42.7
515	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	I 34 53.13 53.43 52.87 53.14	59 55 10.4 10.5 10.7 10.4	575	M. . . . . Rob. . . . . Ja. . . . . Ad. . . . .	I 48 59.03 47 22.76 22.51 22.90	40 05 21.6 20.7 19.8 20.5
516	B. A. C. . . . . Ja. . . . . Wn. . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Sm. . . . . Ad. . . . .	I 34 50.09 49.94 50.09 50.26 50.20 50.21 50.26 50.19	34 36 51.6 50.9 . 50.6 50.8 . 49.7 50.7	576	T. . . . . R. . . . . Main . . . . . Wn. . . . . Ad. . . . .	I 47 34.61 34.63 34.74* 34.86 34.71	36 30 46.2 46.3 . 46.8 46.5
522	St. . . . . R. C. <sub>2</sub> . . . . . Ay., 1868 . . . . . Leid. . . . . Ad. . . . .	I 35 50.18 49.88 50.00* . 50.07	50 03 28.2 28.5 29.7* 29.0 28.7	579	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	I 48 31.11 27.35 . 31.02 . 30.88 31.00	36 39 49.4 50.5 49.1 49.8 50.4* . 49.7
525	M. . . . . Rob. . . . . Bonn . . . . . Main . . . . . Sm. . . . . Ad. . . . .	I 36 03.21 03.34 03.20 . 03.38 03.25	56 54 [§21.9] 27.0 27.0 27.8* 24.1 26.7	580	M. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Main . . . . . Wn. . . . . Ad. . . . .	I 48 44.07 43.95 43.96 44.14 . 43.91 44.01	36 38 15.3 16.0 15.9 15.1 16.2* . 15.5
540	T. . . . . R. . . . . R. C. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	I 40 08.00 07.95 08.09 07.92 08.04 08.00	45 36 22.6 22.7 23.4 23.3 23.1 22.7	587	T. . . . . R. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	I 50 10.10 09.96 10.07 10.02 10.03	46 29 02.4 02.0 02.7 04.4 02.6
544	T. . . . . R. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Wn. . . . . Ad. . . . .	I 41 16.20 16.32 16.33 16.47 16.45 16.40 16.36	37 19 45.7 45.7 46.2 46.3 46.4 . 46.0	590	M. . . . . Rob. . . . . Ad. . . . .	I 50 37.55 37.53 37.54	48 35 30.2 31.5 30.6
547	R. C. . . . . Rob. . . . . Ja. . . . . Wn. Mur. . . . . Sm. . . . . Ad. . . . .	I 41 30.41 30.33* 30.39 . 30.51 30.41	47 16 24.0 24.5 25.1 24.2* 23.4 24.0	614	M. . . . . Rob. . . . . Ad. . . . .	I 53 59.22 59.30 59.26	53 52 54.0 54.2 53.8
555	R. C. . . . . Rob. . . . . R. C. <sub>2</sub> . . . . . Ad. . . . .	I 42 57.30 57.49 57.38 57.39	51 19 00.7 03.0 18 59.3 19 00.7	624	M. . . . . Rob. . . . . Ay., 1864 . . . . . Ad. . . . .	I 55 40.26 40.10 40.06 40.14	32 40 51.8 51.1 50.4 50.9
558	M. . . . . Rob. . . . . Ad. . . . .	I 43 47.36 47.30 47.33	54 31 36.0 38.1 36.8	628	St. . . . . R. C. <sub>2</sub> . . . . . Ay., 1864 . . . . . Wn. . . . . Ay., 1868, 1869 . . . . . Ad. . . . .	I 56 13.88 13.80 13.90 . 13.95 13.88	41 43 43.4 43.2 43.6 42.8 44.3 43.5
560	M. . . . . Rob. . . . . Ad. . . . .	I 44 12.73 13.03 12.88	50 10 23.8 26.6 25.0	646	M. . . . . Rob. . . . . Ad. . . . .	I 59 57.57 57.88 57.72	57 49 38.7 39.0 38.6

§ Bradley has but one declination, which is unreliable.



# DETAILS OF POSITIONS

OF

## ADDITIONAL STARS.

Number.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	Number.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
Gr. 1854 . .	R. C. . . . .	12 03 08	39 19 49.6	Arg. 142 . .	Arg. . . . .	13 40 36	56 31 08.4
	Rob. . . . .		49.6				
	Ad. . . . .		49.3	Gr. 2056 . .	R. C. . . . .	13 46 10	59 09 32.1
Gr. 1867 . .	R. C. . . . .	12 14 00	38 35 48.5		R. . . . .		30.6
	Ay., 1850 . .		47.1		Rob. . . . .		31.4
	Ad. . . . .		47.9		Ad. . . . .		30.7
Gr. 1894 . .	H. . . . .	12 21 25	42 02 51.6	Gr. 2057 . .	R. C. . . . .	13 47 51	40 57 18.8
	R. C. . . . .		51.6		R. . . . .		16.6
	Ad. . . . .		51.5		Rob. . . . .		19.0
Gr. 1903 . .	Arg. . . . .	12 24 53	53 45 41.6		Ad. . . . .		17.8
	H. . . . .		41.6	Gr. 2058 . .	R. C. . . . .	13 48 08	42 48 03.0
	Ad. . . . .		41.6		Rob. . . . .		03.7
Gr. 1907 . .	R. C. . . . .	12 29 43	40 22 24.0		Ad. . . . .		03.0
	Bonn . . . . .		24.8*	XIII 289 . .	T. . . . .	13 57 14	46 21 35.6
	Ad. . . . .		24.1		H. . . . .		36.6
Arg. 124 . .	Arg. . . . .	12 38 34	52 27 01.2		Rob. . . . .		36.3
Gr. 1925 . .	H. . . . .	12 42 05	50 50 24.5		Ad. . . . .		36.1
	R. . . . .		23.3*	Gr. 2077 . .	R. C. . . . .	14 02 16	42 41 41.3
	R. C. . . . .		24.4		R. . . . .		39.4
	Ad. . . . .		24.0		Rob. . . . .		41.5
Gr. 1938 . .	R. C. . . . .	12 50 52	44 13 43.4		Ad. . . . .		40.4
	Rob. . . . .		44.1	Gr. 2084 . .	R. C. . . . .	14 07 04	59 08 23.0
	Ad. . . . .		43.4		Pulc. . . . .		22.5
Gr. 1979 . .	R. . . . .	13 15 31	38 30 45.9*		Ad. . . . .		22.6
	R. C. . . . .		46.2	Gr. 2082 . .	R. C. . . . .	14 04 54	59 55 49.0
	Rob. . . . .		45.9		Rob. . . . .		50.2
	Ad. . . . .		45.7		Bonn . . . . .		48.3*
XIII 71 . .	H. . . . .	13 16 36	44 33 27.1		Ad. . . . .		49.0
	R. C. . . . .		27.3	Gr. 2102 . .	R. C. . . . .	14 14 47	55 26 22.2
	Rob. . . . .		28.3		R. . . . .		24.0*
	Ad. . . . .		27.3		Rob. . . . .		21.4
Gr. 1991 . .	H. . . . .	13 20 55	46 40 45.4		Wn. . . . .		21.3
	R. . . . .		45.4		Ad. . . . .		21.6
	R. C. . . . .		45.9	Gr. 2157 . .	R. C. . . . .	14 45 29	51 53 34.1
	Ad. . . . .		45.4		R. . . . .		35.0*
Gr. 1994 . .	H. . . . .	13 22 55	41 22 49.4		Wn. . . . .		33.9*
	R. . . . .		48.1*		Ad. . . . .		33.9
	R. C. . . . .		48.7	Gr. 2202 . .	R. C. . . . .	15 08 41	49 02 51.1
	Ad. . . . .		48.7		Ay., 1845 . .		50.7*
Gr. 2030 . .	H. . . . .	13 35 47	57 50 23.6		Ay., 1860 . .		51.9
	R. . . . .		24.2		Ad. . . . .		51.1
	R. C. . . . .		22.5	XV 39 . .	T. . . . .	15 12 02	51 24 06.2
	Ad. . . . .		23.0		R. C. . . . .		06.6
Gr. 2032 . .	H. . . . .	13 37 09	42 18 18.3		Rob. . . . .		06.2
	R. . . . .		18.3		Bonn . . . . .		07.3*
	R. C. . . . .		16.9		Ad. . . . .		06.3
	Ad. . . . .		17.6	Arg. 164 . .	Arg. . . . .	15 15 30	41 25 50.2
XIII 189 . .	H. . . . .	13 39 04	52 41 36.7	Gr. 2227 . .	T. . . . .	15 19 48	37 47 07.7
	R. . . . .		[40.3]*		R. . . . .		08.9
	R. C. . . . .		36.9		R. C. . . . .		11.7
	Rob. . . . .		36.5		Rob. . . . .		09.7
	Ad. . . . .		36.5		Ay., 1845 . .		10.6
					Ay., 1850 . .		10.6
					Wn. . . . .		11.4
					Ad. . . . .		13.1



Number.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	Number.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
XV 81 . . .	T. . . . . Rob. . . . . H. . . . . Ad. . . . .	15 21 24	34 46 17.4 19.2 17.2 18.0	R.C. 3820 . .	R. C. . . . . Ay., 1850 . . . Ad. . . . .	17 57 47	48 28 00.7 01.3* 00.6
Gr. 2232 . .	R. C. . . . . R. . . . . Wn. . . . . Arg. . . . . Ad. . . . .	15 21 42	44 44 25.4 25.6 25.8 26.8* 25.6	Rümker 6227 .	R. . . . . A. Z. . . . . H. C. . . . . Ad. . . . .	18 00 36	46 25 59.8 26 01.3* 26 03.2 26 01.1
Gr. 2237 . .	R. . . . . R. C. . . . . Ay., 1845 . . . Ad. . . . .	15 23 52	39 03 23.1 23.6 23.8 23.5	Rümker 6264 .	R. . . . . A. Z. . . . . H. C. . . . . Ad. . . . .	18 03 09	46 15 31.9* 33.4* 31.2 31.6
Arg. 167 . .	Arg. . . . .	15 25 59	57 52 09.0	Rümker 6308 .	R. . . . . H. . . . . Ad. . . . .	18 07 11	33 25 04.8 04.6 04.8
R. C. 3416 .	R. C. . . . . Wn. . . . . Ad. . . . .	15 31 37	40 12 54.5 53.8 54.0	Gr. 2536 . .	R. C. . . . . R. . . . . Ay., 1860 . . . Ad. . . . .	18 11 45	49 06 51.5 50.3 51.8 51.2
Gr. 2260 . .	H. . . . . R. C. . . . . Ad. . . . .	15 34 20	54 55 07.9 07.8 07.8	Gr. 2563 . .	R. C. . . . . R. . . . . Ay., 1860 . . . Ay., 1861 . . . Ad. . . . .	18 20 19	42 24 02.2 03.5* 01.0* 00.7 01.6
R. C. 3453 .	H. . . . . R. C. . . . . Ad. . . . .	15 43 36	55 51 28.8 27.3 28.0	Arg. LXIII .	H. . . . . Bonn . . . . . Ad. . . . .	18 28 03	30 27 41.2 42.6 42.4
Gr. 2325 . .	T. . . . . Rob. . . . . R. C. . . . . Ad. . . . .	16 12 44	53 32 58.3 57.7 56.1 57.1	Gr. 2597 . .	R. C. . . . . Rob. . . . . Ad. . . . .	18 28 47	45 40 53.7 55.8 54.5
Gr. 2351 . .	H. . . . . R. C. . . . . Ad. . . . .	16 25 32	51 40 55.1 53.7 54.3	Gr. 2603 . .	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	18 30 16	46 07 18.5 17.6 19.5* 18.2
Gr. 2354 . .	Arg. . . . .	16 26 44	48 13 56.9	Gr. 2615 . .	R. C. . . . . Rob. . . . . Ad. . . . .	18 32 05	42 57 11.0 10.4 10.4
R. C. 3604 .	T. . . . . R. C. . . . . R. C. . . . . Ad. . . . .	16 43 04	55 32 26.9 28.3 26.6 27.2	Gr. 2632 . .	T. . . . . St. . . . . R. . . . . Rob. . . . . R. C. . . . . Ad. . . . .	18 36 00	52 13 49.5 52.6 53.1* 51.4 52.4 51.4
Gr. 2389 . .	Arg. . . . .	16 49 35	43 02 28.5	Gr. 2644 . .	R. C. . . . . R. . . . . Rob. . . . . Ad. . . . .	18 39 06	39 10 32.5 32.7 34.0* 32.7
Arg. 185 . .	Arg. . . . .	16 59 05	47 13 47.8	Gr. 2646 . .	R. C. . . . . R. . . . . Rob. . . . . Ay., 1840 . . . Ay., 1845 . . . Ay., 1850 . . . Ad. . . . .	18 39 15	44 48 07.8 11.0 10.6 06.7 07.2 07.6 08.2
Gr. 2431 . .	H. . . . . R. C. . . . . Ad. . . . .	17 14 11	38 56 25.1 23.8 24.4	Gr. 2659 . .	R. C. . . . . Rob. . . . . Ad. . . . .	18 40 49	53 44 40.7 41.2 40.6
Gr. 2436 . .	H. . . . . R. C. . . . . Ad. . . . .	17 19 50	38 41 48.0 45.8 46.8	Gr. 2669 . .	R. . . . . A. Z. . . . . R. C. . . . . Ad. . . . .	18 43 26	46 10 44.4 44.4* 44.0 43.9
Gr. 2464 . .	H. . . . . R. C. . . . . Ad. . . . .	17 41 44	38 55 56.1* 54.9 55.2	Gr. 2687 . .	R. C. . . . . Rob. . . . . Ad. . . . .	18 46 56	43 48 33.6 34.2 33.6
Gr. 2473 . .	T. . . . . R. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	17 47 10	40 06 16.3 16.8 17.0 19.4 17.3				
Gr. 2481 . .	R. . . . . H. . . . . R. C. . . . . Ad. . . . .	17 48 33	46 40 40.4 41.5 39.9 40.3				
Gr. 2494 . .	H. . . . . R. C. . . . . Ad. . . . .	17 55 18	45 29 03.0 02.3 02.5				
XVII 347 . .	T. . . . . H. . . . . Rob. . . . . Ad. . . . .	17 56 02	33 13 09.2 11.7 [24.7] 10.8				

Number.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	Number.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
Gr. 2693 . .	H. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	18 48 06	41 13 56.9 56.3 56.2 56.2	Gr. 2977 . .	R. C. . . . . Rob. . . . . Ad. . . . .	19 51 21	47 12 37.0 38.6* 37.2
Gr. 2701 . .	R. C. . . . . Ay., 1860 . . . . Ay., 1864 . . . . Ad. . . . .	18 49 35	42 44 51.9 50.4 50.8 51.0	R. C. 4521 . .	R. C. . . . . Pulc. . . . . Ad. . . . .	19 52 36	59 16 11.0 11.5 11.3
Gr. 2770 . .	T. . . . . R. . . . . Rob. . . . . R. C. . . . . Ad. . . . .	19 03 32	38 43 52.4 50.2* 53.6 52.6 52.4	XIX 370 . .	H. . . . . Rob. . . . . Ad. . . . .	19 53 36	56 21 05.7 06.5 05.8
Gr. 2774 . .	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	19 03 59	38 57 22.7 24.6 26.5 24.6	XIX 391 . . Gr. 3011 . .	R. C. . . . . Rob. . . . . Ad. . . . .	19 56 27	57 28 02.5 03.2 02.6
R. 7219 . .	R. . . . . A. Z. . . . . H. C. . . . . Ad. . . . .	19 07 30	58 04 03.4 02.6 03.8 02.9	Gr. 3013 . .	R. C. . . . . Rob. . . . . Ad. . . . .	19 57 31	40 30 42.7 41.0* 41.8
Gr. 2829 . .	R. . . . . R. C. . . . . Ad. . . . .	19 18 34	52 08 12.2 12.7 12.1	Gr. 3014 . .	R. C. . . . . Rob. . . . . Ad. . . . .	19 57 42	43 46 21.0 23.4* 21.8
Gr. 2833 . .	R. . . . . H. . . . . R. C. . . . . Ad. . . . .	19 19 09	57 31 35.2 35.1 34.7 34.5	XX 63 . . . . R. C. 4661 . .	T. . . . . R. C. . . . . Ay., 1845 . . . . Ay., 1860 . . . . Ay., 1864 . . . . Ad. . . . .	20 09 43	46 19 59.5 59.9 01.0 02.5* 59.7* 00.3
Gr. 2844 . .	H. . . . . R. C. . . . . Ad. . . . .	19 22 08	44 41 05.1 04.4 04.6	Gr. 3110 . .	H. . . . . R. C. . . . . Ad. . . . .	20 11 57	45 11 52.1 52.4 52.2
Gr. 2845 . .	H. . . . . R. C. . . . . Ad. . . . .	19 22 12	44 45 47.7 46.1 46.8	Gr. 3142 . .	H. . . . . R. C. . . . . Ay., 1845 . . . . Ad. . . . .	20 15 19	55 00 25.6 24.1 26.9* 25.1
XIX 193 . .	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	19 28 35	55 27 57.4 58.8 59.5 58.4	Gr. 3215 . .	R. C. . . . . H. C. . . . . Ad. . . . .	20 28 27	41 27 13.8 20.2 25.7
Gr. 2872 . .	Ay., 1840 . . . . R. C. . . . . H. C. . . . . Ad. . . . .	19 28 45	54 59 31.9 31.7 33.4 31.9	Gr. 3220 . .	R. C. . . . . H. C. . . . . Ad. . . . .	20 29 21	41 20 54.0 50.7 50.4
R. C. 4379 . .	R. . . . . Ay., 1840 . . . . R. C. . . . . Ad. . . . .	19 31 12	59 53 10.0 09.8 10.4 09.5	R. C. 4871 . .	R. C. . . . . H. C. . . . . Bonn . . . . . Ad. . . . .	20 30 28	41 17 15.8 16.3 15.9* 15.9
Gr. 2912 . .	H. . . . . R. C. . . . . Ad. . . . .	19 37 41	39 57 34.1 33.4 33.6	Gr. 3243 . .	R. C. . . . . H. C. . . . . Ad. . . . .	20 33 33	42 24 03.2 05.4 08.2
Gr. 2946 . .	Ay., 1845 . . . . R. C. . . . . H. C. . . . . Ad. . . . .	19 44 54	56 36 09.4 10.4 08.1 06.7	Gr. 3311 . .	R. C. . . . . Rob. . . . . Ad. . . . .	20 47 20	51 55 36.9 37.4 36.8
χ Cygni . .	H. . . . . Bonn . . . . . Ad. . . . .	19 45 46	32 35 58.6 57.5 58.0	Gr. 3328 . .	R. C. . . . . Rob. . . . . Ad. . . . .	20 49 25	58 10 59.7 11 00.5 10 59.7
Gr. 2957 . .	R. C. . . . . Rob. . . . . Ad. . . . .	19 47 35	47 03 23.5 23.9 23.4	Gr. 3327 . .	R. C. . . . . Rob. . . . . Ay., 1860 . . . . Ad. . . . .	20 49 50	49 03 33.1 36.3 32.2 33.2
Gr. 2978 . .	R. C. . . . . Rob. . . . . Ad. . . . .	19 50 44	57 50 22.9 21.4 21.8	XX 401 . .	T. . . . . Rob. . . . . H. C. . . . . Bonn . . . . . Ad. . . . .	20 51 32	43 53 42.0* 41.7* 42.4* 43.3 42.6
R. C. 4507 . .	R. C. . . . . H. C. . . . . Ad. . . . .	19 51 20	39 50 31.3 30.1 30.6				

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		h. m. s.	° ' "			h. m. s.	° ' "
Gr. 3387 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	21 00 16	54 44 00.8 02.7 01.4	Gr. 3680 . . .	R. C. . . . . Bonn . . . . . Leid. . . . . Ad. . . . .	22 00 57	47 37 24.1 25.4 25.5 25.2
Fed. 3689 . . .	A. Z. . . . . Ay., 1864 . . . Ad. . . . .	21 01 33	59 45 33.5* 31.9 32.3	Gr. 3715 . . .	R. . . . . Rob. . . . . A. Z. . . . . R. C. . . . . Ad. . . . .	22 07 38	58 27 49.8 52.1 49.5 50.8 50.2
R. C. 5132 . . .	A. Z. . . . . R. C. . . . . H. C. . . . . Ad. . . . .	21 06 11	47 10 56.2 56.7 56.7 56.5	Gr. 3717 . . .	H. . . . . R. C. . . . . Ad. . . . .	22 08 41	44 49 17.2 15.8 16.4
Gr. 3424 . . .	H. . . . . R. C. . . . . Ad. . . . .	21 12 39	42 09 37.2 38.8 37.9	R. C. 5653 . . .	R. C. . . . . Pulc. . . . . Ad. . . . .	22 15 06	59 31 13.3 13.7 13.5
Gr. 3447 . . .	R. C. . . . . Ay., 1860 . . . Ad. . . . .	21 18 09	48 57 28.0 27.5 27.6	Gr. 3750 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	22 16 30	41 26 54.8 54.8 54.5
Pi. 159 . . . .	T. . . . . R. C. . . . . Rob. . . . . Ay., 1845 . . . Ad. . . . .	21 23 19	46 01 03.2 03.0 03.6 02.9 03.0	Gr. 3771 . . .	R. C. . . . . Ay., 1845 . . . Ad. . . . .	22 20 55	53 10 51.0 52.5 51.4
R. C. 5252 . . .	A. Z. . . . . Ay., 1845 . . . R. C. . . . . Ad. . . . .	21 25 00	45 52 42.7 44.7 44.5 43.8	Gr. 3772 . . .	R. C. . . . . Ay., 1845 . . . Ad. . . . .	22 21 02	53 18 32.2 33.2 32.3
Arg. +50°, 3382	H. C. . . . . Bonn . . . . . Ad. . . . .	21 32 54	50 30 09.1 10.6* 09.6	L. 43886 . . .	H. . . . . H. C. . . . . Ad. . . . .	22 21 58	39 10 25.4 24.6 25.0
Gr. 3524 . . .	R. C. . . . . Ay., 1860 . . . Ad. . . . .	21 34 00	49 13 56.5 55.1 55.7	XXII 113 . . .	T. . . . . H. . . . . Rob. . . . . Ad. . . . .	22 22 03	31 12 05.0 07.3 06.3 06.2
Gr. 3533 . . .	A. Z. . . . . R. C. . . . . H. C. . . . . Ad. . . . .	21 34 59	51 47 50.0 50.4 48.5* 49.7	Gr. 3779 . . .	A. Z. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	22 22 43	50 51 20.8 22.0 20.0 20.7
Gr. 3554 . . .	A. Z. . . . . R. C. . . . . H. C. . . . . Ad. . . . .	21 37 44	51 43 16.7 16.7 17.5 16.9	Gr. 3780 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	22 22 54	50 56 18.6 18.6* 18.3
Gr. 3550 . . .	R. C. . . . . Pulc. . . . . Ad. . . . .	21 36 51	59 11 1.7 1.8 1.7	Gr. 3843 . . .	R. C. . . . . Rob. . . . . Ay., 1860 . . . Ad. . . . .	22 33 18	43 39 41.8 42.1 42.4 41.9
Gr. 3556 . . .	R. C. . . . . Ay., 1860 . . . Ad. . . . .	21 38 06	49 01 47.2 46.8 46.9	Gr. 3849 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	22 34 31	40 39 45.3 48.2 46.5
R. 9430 . . . .	Ay., 1840 . . . R. . . . . Rob. . . . . H. C. . . . . Ad. . . . .	21 38 26	37 44 01.2 43 59.0* 44 03.1 01.5 01.5	Gr. 3867 . . .	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	22 38 10	43 53 09.1§ 52 33.1 31.3 31.9
R. C. 5408 . . .	R. C. . . . . H. . . . . Ad. . . . .	21 44 35	40 33 59.4 34 00.4 33 59.8	Gr. 3873 . . .	R. C. . . . . Bonn . . . . . Ad. . . . .	22 39 13	38 32 43.9 46.2 45.0
Gr. 3601 . . .	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	21 48 13	54 27 08.0 06.2 09.2 07.6	Gr. 3877 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	22 39 37	51 51 37.2 36.5 36.5
R. C. 5476 . . .	R. C. . . . . Bonn . . . . . Ad. . . . .	21 52 11	45 59 52.2 53.4* 52.5	Gr. 3901 . . .	Ay., 1840 . . . R. C. . . . . Ad. . . . .	22 44 48	50 00 55.4 55.0 55.2
R. C. 5483 . . .	R. C. . . . . Pulc. . . . . Ad. . . . .	21 52 30	59 12 04.5 03.9 04.1	Ll. 44750 . . .	A. Z. . . . . H. C. . . . . Ad. . . . .	22 45 47	48 04 15.4 14.6 14.9

§ Probably should be 52° 31' 6", and is 2 years' precession in error.

## CATALOGUE OF STARS.

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Number.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	Number.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
Gr. 3913 . .	Ay., 1840 . . . R. C. . . . . Ad. . . . .	22 47 15	50 02 30.2 29.1 29.3	Gr. 4172 . .	H. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	23 50 43	41 57 45.2* 45.3 45.2 45.0
Gr. 3936 . .	T. . . . . H. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	22 51 54	38 38 28.5 28.5 27.8 27.5 28.1	Gr. 4190 . .	T. . . . . R. C. . . . . Ay., 1845 . . . Ad. . . . .	23 52 54	49 50 00.8 00.6 03.0 01.2
Gr. 3947 . .	R. C. . . . . Ay., 1845 . . . Ad. . . . .	22 54 55	44 42 16.2 16.5 16.2	R. C. 6254 . .	R. C. . . . . Pulc. . . . . Ad. . . . .	23 54 11	58 51 51.9 52.3 52.1
Gr. 3964 . .	R. C. . . . . Rob. . . . . Pulc. . . . . Ad. . . . .	22 57 14	59 10 51.0 51.3 49.7 50.3	Gr. 4207 . .	R. C. . . . . Ay., 1845 . . . Ay., 1864 . . . Ad. . . . .	23 56 44	42 03 07.8 07.7 07.6 07.7
Gr. 3965 . .	R. C. . . . . Rob. . . . . Ad. . . . .	22 57 21	54 33 48.8 49.6 48.8	Gr. 4216 . .	R. C. . . . . Ay., 1860 . . . Ad. . . . .	23 57 45	49 10 27.4 27.5 27.4
Gr. 3990 . .	R. C. . . . . Pulc. . . . . Ad. . . . .	23 01 54	59 03 06.0 05.7 05.7	Gr. 4237 . .	R. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	0 01 11	39 27 11.2 10.7 11.4 10.8
Gr. 4017 . .	R. C. . . . . Rob. . . . . Ad. . . . .	23 08 32	49 56 15.9 17.5 16.4	Gr. 4243 . .	R. C. . . . . Rob. . . . . Ad. . . . .	0 02 59	45 41 34.3 34.1 33.9
Gr. 4020 . .	R. C. . . . . Rob. . . . . Ad. . . . .	23 09 13	45 50 39.3 38.9 38.8	Gr. 2 . . . .	R. C. . . . . Rob. . . . . Ad. . . . .	0 03 46	51 33 34.6 36.6* 35.0
Gr. 4043 . .	R. C. . . . . Pulc. . . . . Ad. . . . .	23 14 50	59 35 26.5 27.1 26.8	Gr. 9 . . . .	R. C. . . . . Rob. . . . . Ad. . . . .	0 05 27	47 27 22.4 22.7 22.2
Gr. 4052 . .	R. C. . . . . R. . . . . H. C. . . . . Ad. . . . .	23 18 09	40 55 37.5 35.8* 37.4 37.0	Gr. 13 . . . .	R. C. . . . . Rob. . . . . Ad. . . . .	0 06 02	44 00 45.9 45.3 45.2
Gr. 4074 . .	R. C. . . . . Rob. . . . . Ad. . . . .	23 23 28	45 46 37.7 37.2 37.1	Gr. 24 . . . .	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	0 08 02	40 20 09.9 11.1 12.2 11.0
Gr. 4083 . .	T. . . . . R. C. . . . . R. . . . . Rob. . . . . Ad. . . . .	23 25 48	43 22 56.7 57.08 55.4 56.5 56.4	Gr. 55 . . . .	R. C. . . . . Rob. . . . . R. 2 . . . . . Ad. . . . .	0 16 04	53 57 07.1 08.0 06.9 07.1
Gr. 4110 . .	R. C. . . . . Rob. . . . . Ad. . . . .	23 32 27	57 57 45.4 46.2 45.4	R. C. 93 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	0 19 24	56 05 18.1 18.3 17.8
Gr. 4125 . .	R. C. . . . . R. . . . . Rob. . . . . Ad. . . . .	23 35 21	48 49 12.2 10.9* 14.0 12.2	Gr. 64 . . . .	R. C. . . . . Ay., 1860 . . . R. 2 . . . . . Ad. . . . .	0 20 28	49 17 37.6 36.4 38.3 37.4
Arg. 246 . .	Arg. . . . .	23 37 20	57 22 12.1	Gr. 74 . . . .	T. . . . . Ay., 1840 . . . R. C. . . . . Ad. . . . .	0 24 29	43 15 21.9 21.5 21.9 21.9
Gr. 4136 . .	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	23 38 43	55 06 21.1 21.3 21.3 21.0	Gr. 86 . . . .	R. C. . . . . Ay., 1850 . . . Ad. . . . .	0 25 53	53 25 52.0 52.9* 52.0
Gr. 4139 . .	R. C. . . . . Rob. . . . . Ad. . . . .	23 41 21	46 08 18.1 19.2 18.3				

§ Corrected by Argelander.

## CATALOGUE OF STARS.

Number.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.	Number.	Authority.	Right Ascension, 1875.0.	Declination, 1875.0.
		h. m. s.	° ' "			h. m. s.	° ' "
Gr. 96 . . .	T. . . . . R. C. . . . . Rob. . . . . Ay., 1860 . . . . Ad. . . . .	0 28 32	53 30 49.5 50.5 51.6 50.2 50.3	Gr. 297 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	1 14 22	49 27 58.6 58.2 58.0
Gr. 108 . . .	R. C. . . . . Rob. . . . . Pulc. . . . . Ad. . . . .	0 31 25	59 38 12.8 12.6 12.8 12.6	T. 50 . . . . . Gr. 299 . . .	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	1 14 56	42 55 44.2 44.8 44.9 44.6
Gr. 125 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	0 35 38	51 39 05.4 04.9 04.8	Gr. 317 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	1 20 51	43§ 24 01.3 01.3 01.0
Gr. 142 . . .	T. . . . . R. C. . . . . Rob. . . . . R. 2 . . . . . Ad. . . . .	0 40 55	50 45 42.9 45.2 43.5 44.3* 43.8	Gr. 357 . . .	T. . . . . R. C. . . . . Rob. . . . . Ad. . . . .	1 32 17	53 13 59.4 58.6 59.4 58.9
Gr. 241 . . .	T. . . . . R. C. . . . . Ay., 1860 . . . . Ad. . . . .	0 59 56	48 53 10.7 10.5 11.0 10.7	Gr. 374 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	1 36 49	45 30 40.1 40.2 39.8
Gr. 294 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	1 13 02	42 51 09.0 09.3 08.8	Gr. 400 . . .	R. C. . . . . Rob. . . . . Ad. . . . .	1 47 08	40 02 25.1 24.4 24.4

§ Robinson has 45", but 43" is correct.











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